VOL. 85 NO. 12

textile bulletin

DECEMBER • 1959

The Designing Of Pile Fabrics
(Page 37)

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MERRY CHRISTMAS TO EACH OF YOU FROM ALL OF US AT TEXTILE BULLETIN

Mill after mill says, "It's amazing!" Dayton's

Golden Thorobred Drop Box Picker

Lasts at least ten times longer...
cushions the entire picking action

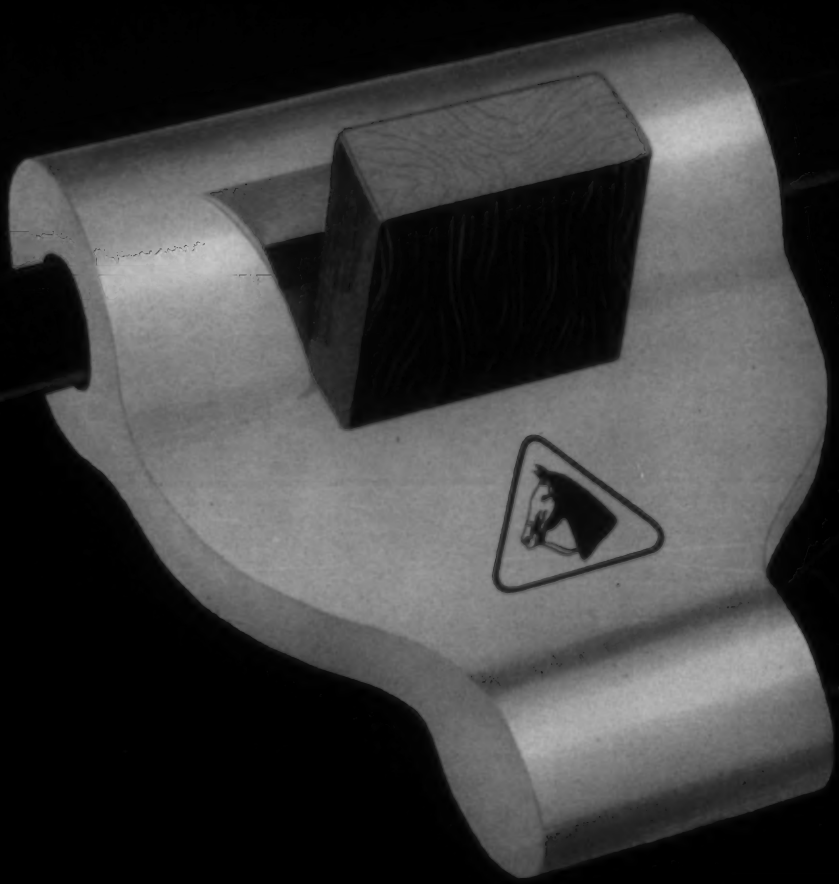
It all adds up to really tremendous savings in the cost of picker replacement and a new level of production efficiency with a product that's being manufactured right here in the United States.

And, how's this for a perfect balance of toughness and resiliency? The Golden Thorobred Drop Box Picker won't abrade the picker stick . . . yet resists wear to itself by up to 10 times longer. At the same time, the Golden Thorobred cushions the impact of the shuttle . . . protecting it against undue wear.

As an added feature, Dayton equips the Golden Thorobred with extra long-wearing Daylube Bushings which can be economically replaced again and again to extend the life of the picker substantially.

The secret of this long-wearing performance and easy-cushioning action is a new material created out of more than 6 years of Dayton research in advanced elastomers. Now, at last, you can buy a perfectly uniform, perfectly constant, drop box picker that never varies in size or performance. Each fits the picker stick in exactly the same way, to save you time and trouble.

Dayton Golden Thorobred Drop Box Pickers are available now through your local Dayton jobber. Call him now or write The Dayton Rubber Company, Textile Division, 401 South Carolina National Bank Building, Greenville, S. C.



Dayton Rubber

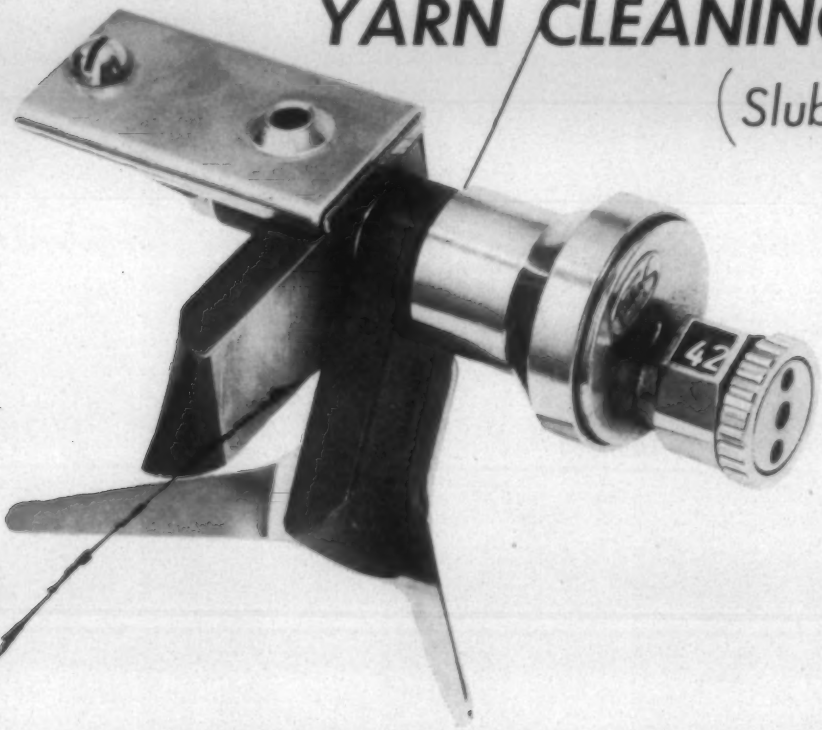
Dayco and Thorobred Textile Products for Better Spinning and Weaving

OVERSEAS PLANT, THE DAYTON RUBBER CO. LTD., DUNDEE, SCOTLAND

ANOTHER LEADING PRODUCER
AVAILABLE TO YOU FROM *Reiner*

the SIGEL PRECISION YARN CLEANING DEVICE

(*Slub Catcher*)



Here is a **reasonably-priced,** sturdy slub catcher readily adaptable for use in almost every type of winding or spooling operation — including cheeses, cones, bottles, bobbins and pirns.

Requiring practically no maintenance, the SIGEL slub catcher provides a mechanical inspection for all spun or filament yarns as they are being wound. No slubs or foreign matter can pass through the ¾" wide hardened and ground steel jaws. **Precise adjustments** or settings (in steps of 1/2500") **are easily made — and maintained.** Once set for the specific requirements of a yarn — it takes a special key to unlock the device, thereby eliminating any chance of tampering or error. **Exceptionally easy to clean** — One spring-loaded jaw tilts for slub removal and then returns to position on release. The visual setting arrangement not only permits the most precise of adjustments, but is easily checked and read.

FOR PLY YARNS: The Sigel device is readily adaptable for twisting of up to 6 ends. The individual devices (one for each end) are all adjusted from one point.

Write for Complete Details.

ROBERT REINER, INCORPORATED

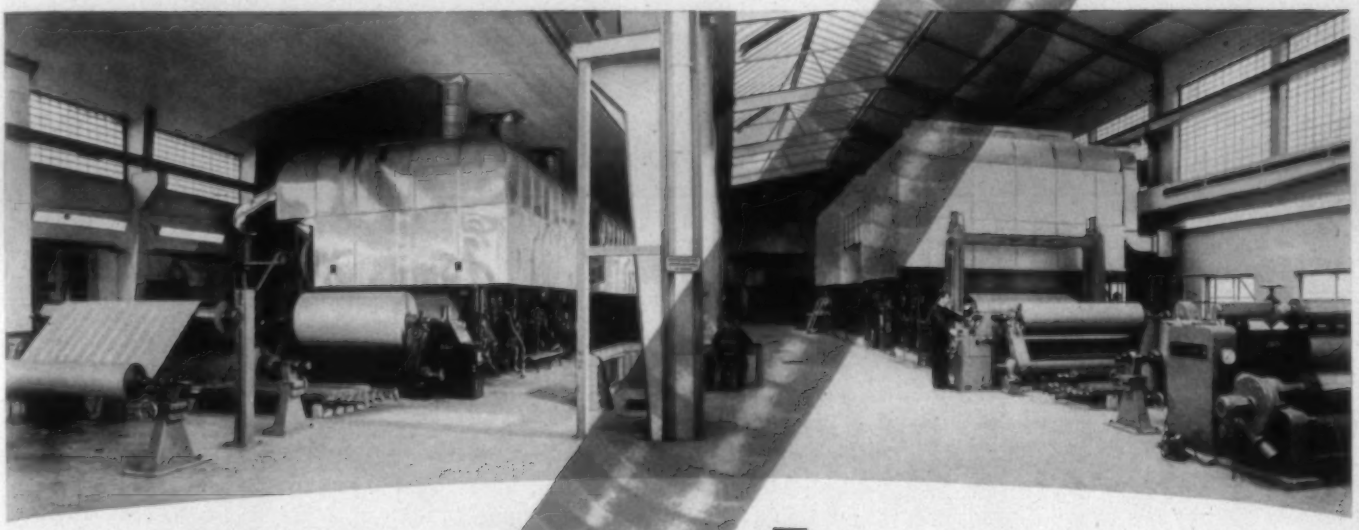
550-564 GREGORY AVENUE

Telephone: UNion 7-0502 — From New York City call LOngacre 4-6882

WEEHAWKEN (Only 10 minutes from Times Square by direct bus) **NEW JERSEY**

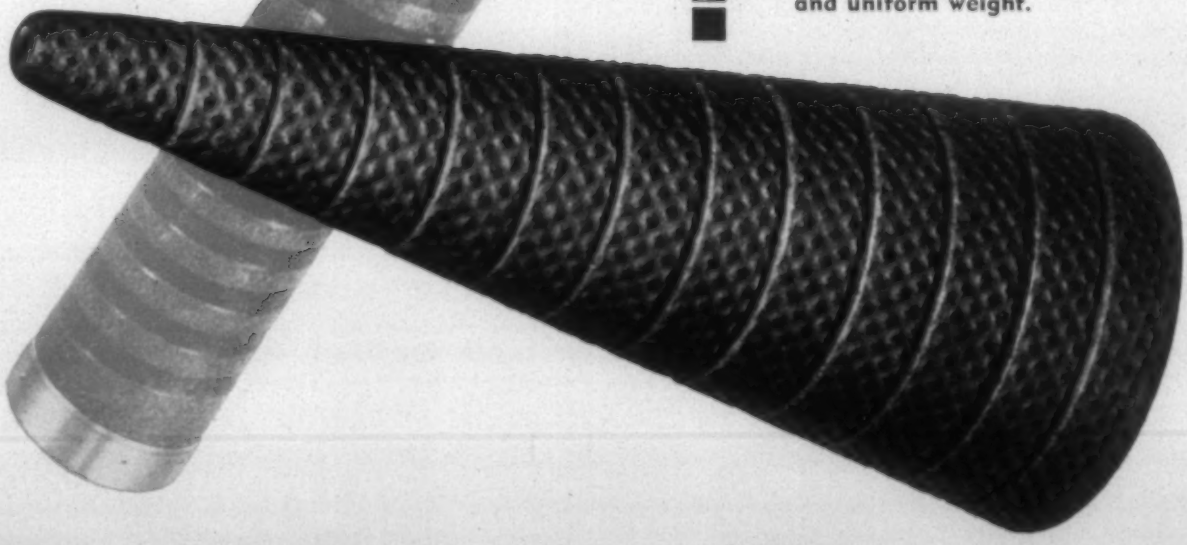
AN HONORED NAME IN TEXTILE MACHINES SINCE 1903.

We make our own paper. These huge machines ensure a constant supply of the basic material for Adolff tubes, cones and yarn carriers of all types.



We control every stage of manufacture, from raw material to finished product.

Adolff yarn carriers are internationally famous for their dimensional stability and uniform weight.



EMIL ADOLFF, Reutlingen/Wttbg., Germany

U. S. A. Central Organization with manufacturing facilities in the States:

Textube Corporation, 695 Summer Street, Stamford, Connecticut

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WATSON & DESMOND
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CROWTHER LIMITED
212-214 Victoria Ave.
Westmount, Montreal, P. Q.

USTER NEWS!

MILLS UPGRADE PERFORMANCE OF WARPERS AND SLASHERS

In current lab operations, the Uster Automatic Strength Tester pins down optimum warper and slasher speeds and tensions.

In one instance, random ends were tested across the entire width of the sectioned beam. Automatic single strand tests effectively determined the elongation characteristics and the breaking strength after warping. The same procedure was followed after slashing.

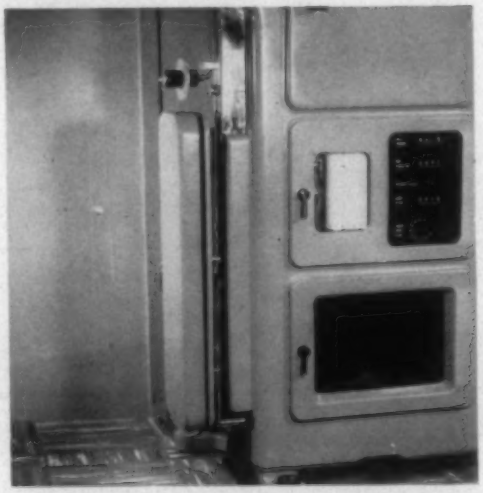
The Uster Automatic Strength Tester telescopes the technician's time required for valuable resultant data. Variations in yarn elongation are immediately apparent, and compensating adjustments of speed and tension improve production at the warper and slasher.

CONTINUOUS QUALITY

MORE AND MORE BUYERS DEMAND SINGLE STRAND TESTS

Customer's specifications are confirmed by complete statistical records of yarn samples. The Uster Strength Tester predicts yarn acceptance before the shipment is made from the spinning mill. Many modern spinning mills render additional service to their customers by passing along yarn test records. Often initial tests are of assistance in later processes.

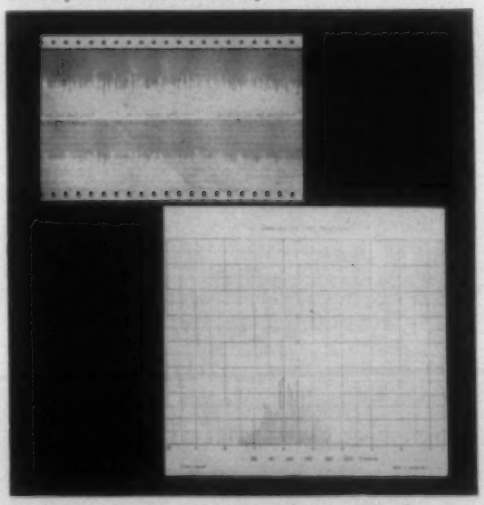
In three minutes, an experienced operator loads creel and starts test.



5, 10, 20 or 40 tests per bobbin are accomplished automatically.

REPUTATIONS REST ON SINGLE STRAND TESTING

Human error is completely wiped out as the Uster Strength Tester automatically registers individual values of breaking strength and elongation, the sum of breaking strength and elongation, frequency distribution of breaking strength and percentage of elongation. Modern mills rely on single strand testing wherein the technician selects 5, 10, 20 or 40 tests per bobbin to fit requirements. The Uster Automatic Strength Tester needs a technician only long enough to start the test.



Technician returns from other work for complete records of yarn sample.

CONTROL IN MANUFACTURING

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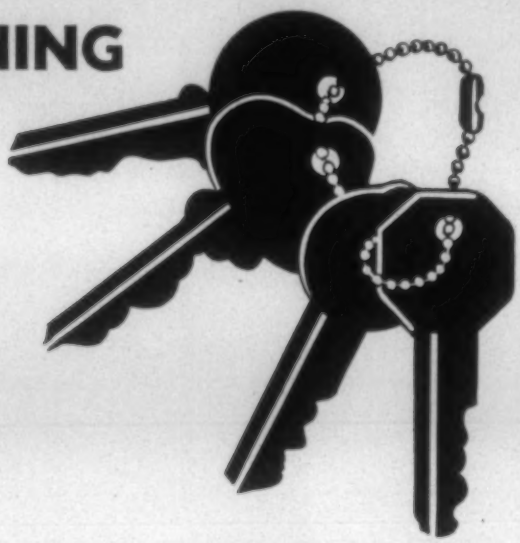
USTER

KEYS TO GOOD SPINNING



WHAT HAPPENED WHEN PANDORA OPENED HER BOX?

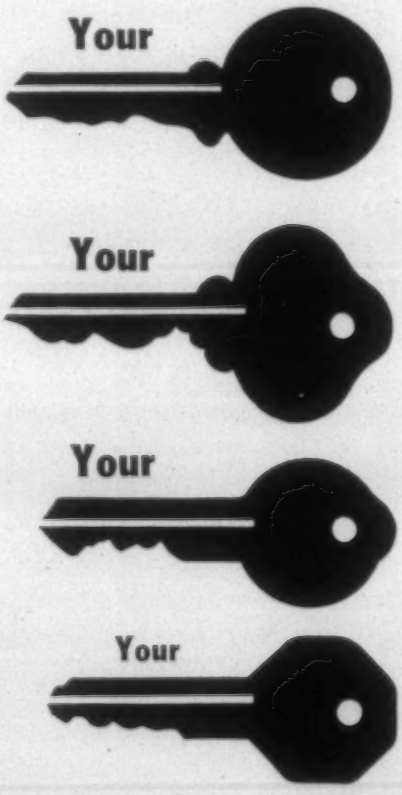
All the spirits of evil were let loose in the world. Are some of them hounding your spinning room? Every evil has its cure. Attack your evil spinning-spirits with . . .

nyaf®

ANTI-FRICTION

YOUR KEY TO GOOD SPINNING

. . . QUALITY YARN . . .



TO EVENNESS: Our well known straight rolls—guaranteed runout not over .002—the best on the market. EVENNESS also produced by precision control in the nyaf high draft area resulting from our design of cradle and cradle pin opening gauged through its entire length to a close tolerance. (Patent Pending)

TO HIGH BREAKING STRENGTH: Alignment of top rolls in relation to bottom rolls plus maximum positive weight control for top breaking strength.

TO LOW ENDS DOWN PER M SPINDLE HOURS: Our nyaf system is noted for positive control—thus maximum production.

TO CLEANLINESS AND LOW COST OPERATION: nyaf anti-friction bearings need no lubrication, thus cleaner operation and better quality yarn. Anti-friction bearings with head-end chain drives reduces horsepower, eliminates all chattering, reduces cost.

Your inquiries are invited. Write for more complete information.

Formerly NORLANDER-YOUNG MACHINE Company

F. A. YOUNG MACHINE CO.

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Telephone UNiversity 5-8556 — *GASTONIA, NORTH CAROLINA*

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IT'S COLOR-IFIC! COLORSPUN* RAYON and ACETATE

. . . in colors that rival the brilliance of the plumage of nature's most colorful creations. Like the bird of paradise, Colorspun fibers are born with the color sealed in for life—color is added to the solution before spinning the fiber. Resists fading due to water, sun, perspiration, fumes, etc.! That's why Colorspun fibers are used for fashions, homes, automobiles, industry!

COLORSPUN . . . RAYON STAPLE

1. BRIDAL ROSE
2. PALE PINK
3. SILVER GREY
4. SEA FOAM
5. CASCADE
6. SPUN GOLD
7. SANDALWOOD
8. BISQUE
9. CHAMPAGNE
10. SPICE BROWN
11. ROSEWOOD

COLORSPUN . . . ACETATE YARNS

12. FIREBIRD RED
13. DUSTY ROSE
14. AQUATONE
15. SPICE BROWN
16. NUTMEG
17. BISCUIT
18. DARK GREEN
19. AVOCADO
20. COPPER
21. BRONZE
22. GOLD
23. BLACK
24. LIGHT GREY
25. ROYAL BLUE

COLORSPUN . . . RAYON YARNS

26. NAVY
27. ROYAL BLUE
28. ULTRAMARINE
29. ORIENTAL BLUE
30. APPLE RED
31. ROSE
32. PALE PINK
33. TURQUOISE
34. IRISH GREEN
35. KELLY GREEN
36. SHERWOOD
37. TARRAGON
38. TRITON
39. SURF GREEN
40. GOLD
41. PALE LEMON
42. SPICE BROWN
43. HENNA
44. NUTMEG
45. BISQUE
46. BLACK
47. SLATE
48. NICKEL
49. CHAMPAGNE

COLORSPUN . . . SMOOTH RAYON CARPET STAPLE

50. CHESTNUT
51. BRAZIL
52. SANDALWOOD
53. SUN TAN
54. BEIGE
55. BLACK
56. DOVE GREY
57. SUN GOLD
58. TURQUOISE
59. JADE GREEN

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AVISCO®

Rayon • Acetate • Cellophane

AMERICAN VISCOSE CORPORATION, 350 Fifth Avenue, New York 1, N. Y.

COLORSPUN*

RAYON and ACETATE ARE EVERYWHERE

. . . in your clothing, in your home, in your car, in your electrical appliances and in the factories that supply your needs. In demand by manufacturers of all kinds, these forever-colorful fibers have hundreds of end uses. If you are not already using Colorspun, we would be happy to supply you with additional information.

COLORSPUN ACETATE

. . . used mainly in men's, women's and children's fashions:

- carcoat-linings
- draperies
- suit-linings
- coat-linings
- dress goods
- bathing suit fabrics
- men's socks
- umbrellas
- women's tricot lingerie

COLORSPUN FILAMENT RAYON

. . . enjoys much popularity for men's and women's apparel:

- linings
- shirtings
- dress goods
- decorative worsted yarns
- manufacturers' labels

. . . has many uses in home furnishings:

- draperies
- curtains
- slipcovers
- upholstery
- bedspreads
- throws
- tablecloths
- gift-wrap ribbons

. . . is a major item in automobile interiors:

- upholstery
- head liners
- upholstery trimmings

COLORSPUN STAPLE RAYON

. . . used by top makers of men's, women's and children's ready-to-wear:

- interlinings
- dress goods
- suit goods
- men's hosiery
- men's t-shirts
- and airplane luggage

. . . is of major importance to the home fashion industry:

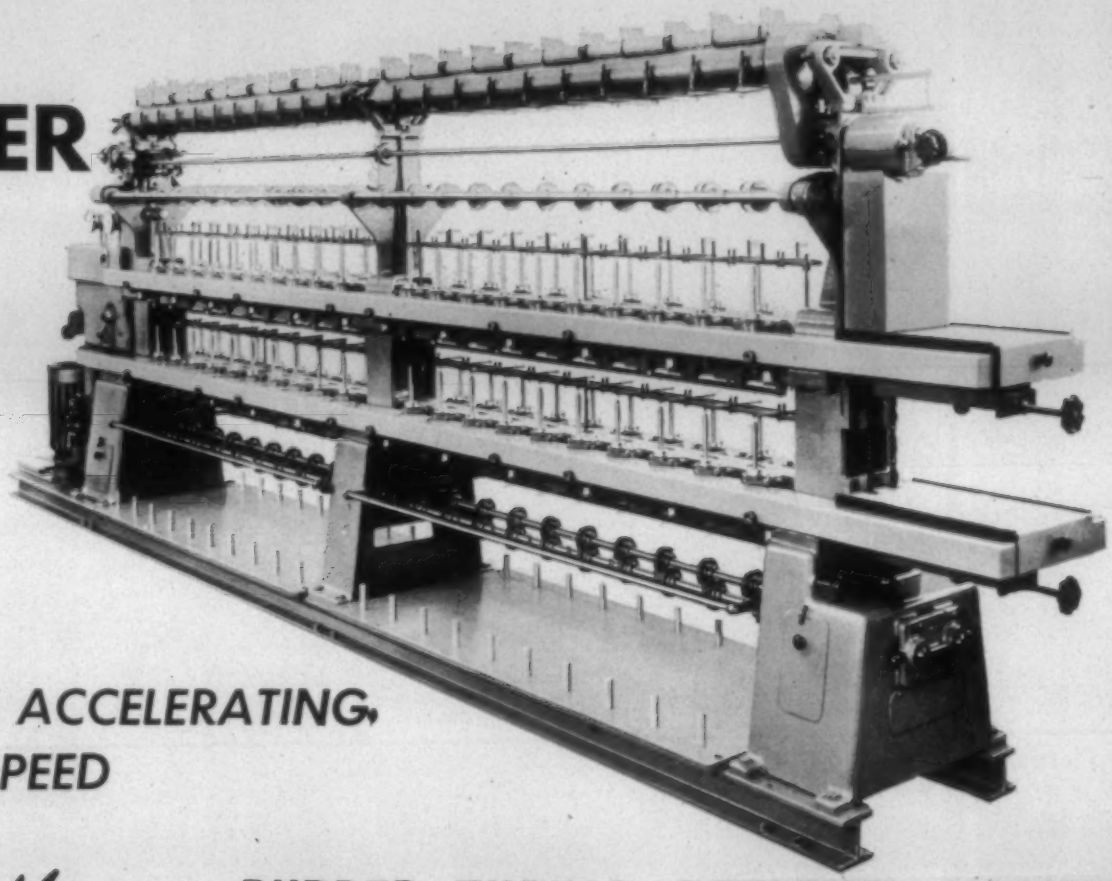
- carpeting
- draperies
- place mats
- upholstery
- bedspreads
- tablecloths

. . . is being used by the top automobile makers:

- upholstery
- window-channel fabrics
- convertible tops
- carpeting

FROM

REINER



A FAST ACCELERATING, HIGH-SPEED

Schaffhouse RUBBER THREAD COVERING MACHINE

Featuring 40 and 60 spindle units, the standard SUMA model permits fast, efficient covering of fine and finest rubber threads for all elastic weaving and knitting applications, such as BATHING SUITS — FOUNDATION GARMENTS — SURGICAL STOCKINGS — ORTHOPEDIC FABRICS — WELT TOPS — RASCHEL GOODS — RIBBONS, etc.

Built by Schaffhouse in Switzerland — known for over 80 years as designers and fabricators of precision textile machines — the "Suma" model PERMITS INSTANT STOPPING OF EACH INDIVIDUAL SPINDLE BY SIMPLY PUSHING IT CLEAR OF THE DRIVING BELT — WITHOUT TOUCHING ANY MOVING PARTS OF MACHINE — OR NECESSITATING THE USE OF ANY SPECIAL TOOLS.

OTHER FEATURES:

- Bare rubber thread is fed from King cones to positively driven feed wheels.
- Yarn breakage, even at highest speeds, is almost eliminated by flyerless covering process.
- Elongation is controlled by speed variator. A speed indicator facilitates the control of elongation.
- Speed adjustments made steplessly — including variations in take-up speeds.
- Chrome-nickel steel spindles — shafts rotating on precision ball bearings.
- Variable speed 11½ or 16 HP motor (for 40 or 60 spindle units respectively) provides main drive — servo motor permits various working speeds.
- Upper spindle bank speed range: 4,000 to 16,000 rpm. Lower spindle bank range: 8,000 to 16,000 rpm. **Speed Indicator for each spindle bank.**
- Tension of bare rubber controlled by changing gear wheels.

Write today for complete information

ROBERT REINER, INCORPORATED

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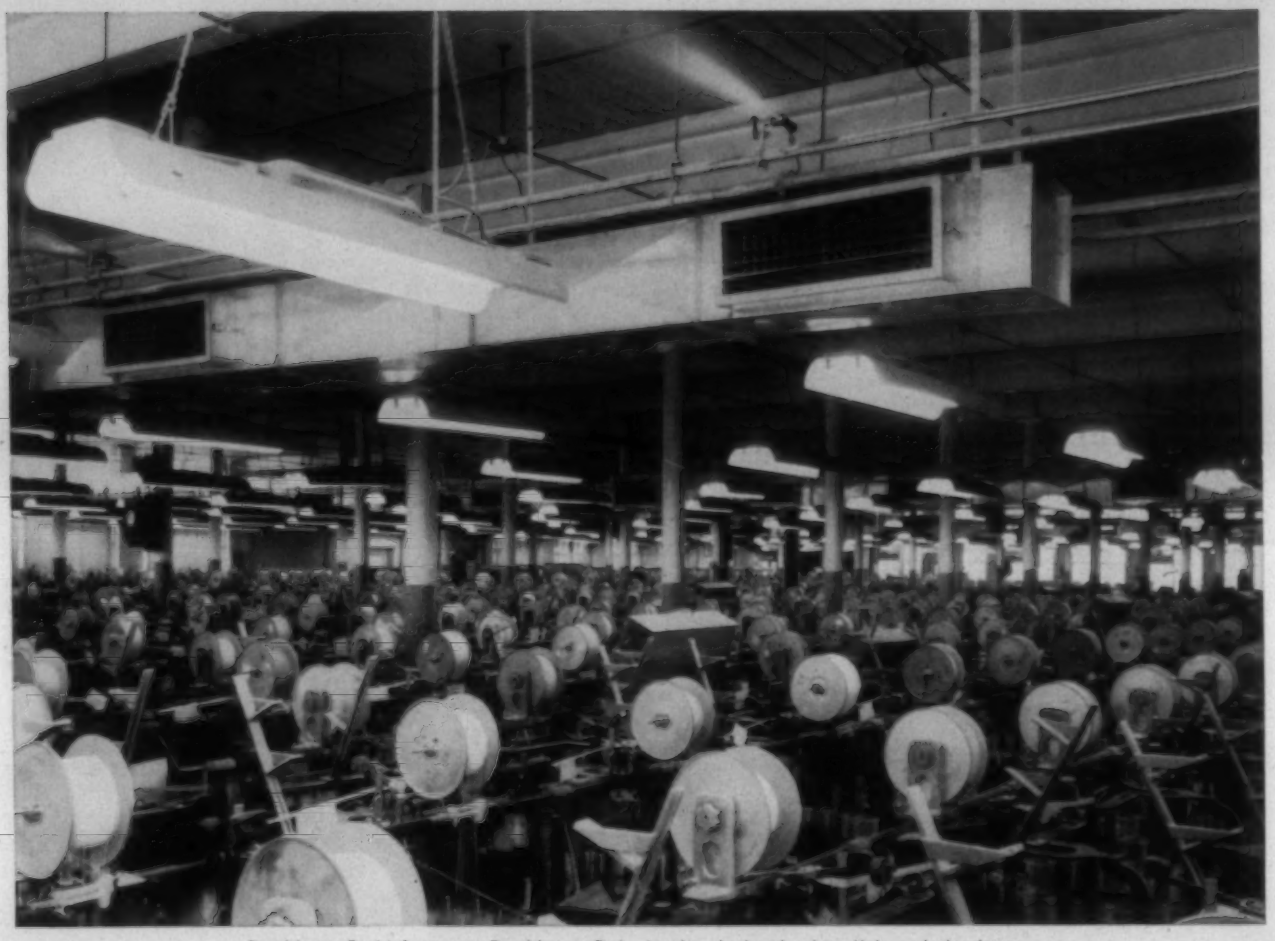
WEEHAWKEN (Only 10 minutes from Times Square by direct bus) NEW JERSEY

AN HONORED NAME IN TEXTILE MACHINES SINCE 1903



Providence Braid Company, Providence, R. I. showing ductwork, air outlets and atomizers.

Is your humidifying system providing maximum cooling?

At Providence Braid Company an Amco Unit Dry-Duct system operates to control humidity precisely and, at the same time, to provide maximum cooling commensurate with the required evaporation.

As moisture from atomizers in a humidifying system evaporates, heat is absorbed and the air temperature is lowered. This cooling can be increased substantially by a positive ventilating system (such as an Amco Unit Dry-Duct system) which introduces fresh air uniformly throughout the mill room, thereby deliberately increasing the demand for evaporation in order to lower the temperature and maintain the selected humidity.

A unit dry-duct system consists of one or more air handling units, air ducts, room atomizers and pressure type window vents. When cooling is not required, recirculated air (instead of fresh air) is drawn into the unit, filtered and heated when necessary, then distributed through the ducts back into the room.

Amco's Unit Dry-Duct system is only one of several types of textile mill air conditioning systems which Amco engineers, manufactures and installs. For expert help, based on more than 70 years' experience, next time call on Amco.

◀ In same mill room, humidity control in foreground — window exhaust vents in background.

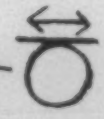
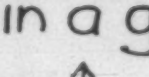
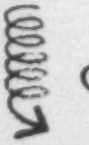
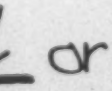
AMCO

SINCE 1888

AIR CONDITIONING EQUIPMENT

AMERICAN MOISTENING COMPANY, CLEVELAND, N. C.

Branches: Atlanta, Ga. • Providence, R. I. • Toronto, Ont.

If it rolls on an axle  or turns in a bearing  or rides on a shaft  if it slides in a groove  or moves on a pivot  if it bores  or cuts  or transmits pressure 

one of Sinclair's 500 specialized lubricants is designed to make it work better. For answers to your lubrication problems, write today to

SINCLAIR REFINING COMPANY

Technical Service Division
600 Fifth Ave, N.Y. 20 N.Y.

Stop Migration of Pigment Colors with

Superclear

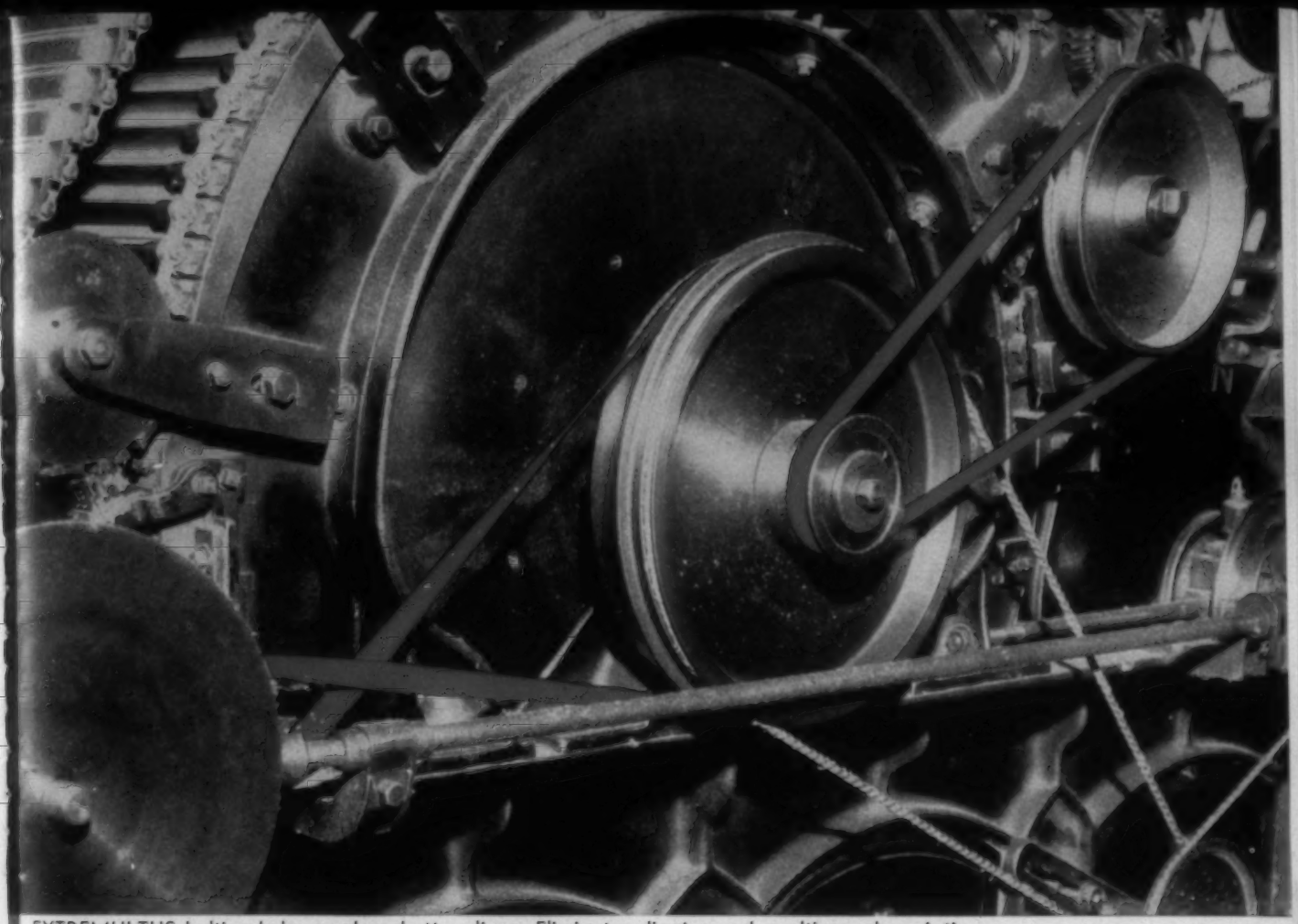
Well-known Printing Gum Now Enters The Dyeing Process

Are you pad dyeing synthetics with dispersed pigment colors? Use Superclear in the pad liquor. It eliminates shading from selvedge to selvedge. And there's no tailing off of shades when Superclear is present in the pad liquor. In vat-acid continuous dyeing, use Superclear with the pad liquor for level shades with any mixture of vat dyes. Superclear prevents migration of the pigment; assures uniform shades from end to end. For pad-steam continuous vat dyeing, absolutely uniform pigmentation is obtained by adding Superclear to the pad liquor. A full range of level shades is obtained, from pastels to deep tones, plus excellent fixation without migration of pigment.

LOMAR PW is recommended as a successful suspending agent. For those who add wetting agents in these operations, we have a full line to offer. Contact Jacques Wolf today for your sample and complete information.

JACQUES WOLF & CO.
Chemicals PASSAIC, N.J.

Plants in: Clifton, N.J., Carlstadt, N.J., Los Angeles, Calif.



EXTREMULTUS belting helps produce better sliver. Eliminates slipping and resulting web variation.

for increased textile mill efficiency

EXTREMULTUS

THE BELT THAT WON'T STRETCH . . . WON'T SLIP

THE BEST DRIVE AT THE LOWEST COST!

EXTREMULTUS is not merely a new name. It is a new *kind* of belt. It combines a polymer core — for strength and elasticity — with chrome tanned leather for high friction and flexibility. It is unique; it has never been successfully imitated.

EXTREMULTUS eliminates start-up problems; keeps tension; gives smooth, constant speed; splices quickly, reduces bearing loads — and outlasts all other belting.

EXTREMULTUS belts have been job-proven in hundreds of textile mills and in many other industries. Mills that have tried it are now converted to EXTREMULTUS 100%.

EXTREMULTUS, INC.

25-11 40th Avenue Long Island City 1, N. Y.

EXTREMULTUS, INC. B

25-11 40th AVENUE
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☐ Send me EXTREMULTUS catalog.
I would like more information on how EXTREMULTUS:

☐ Keeps tension
☐ Eliminates start-up problems
☐ Outlasts all other belting
☐ Gives smooth, constant speed
☐ Reduces bearing loads
☐ Splices quickly

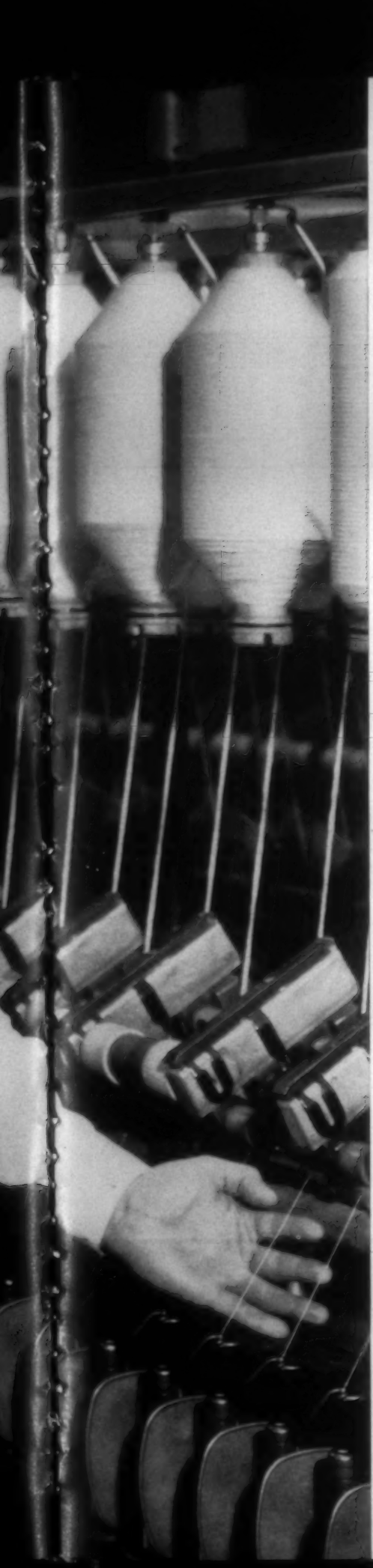
NAME .....

TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... STATE .....



Mr. A. M. Federline, Overseer
of Spinning at Startex Mills, Startex, S. C.,
discusses yarn quality with
Armstrong representative Paul Rosser.

Your Armstrong man can help you select the right Accotex Cot for top production of quality yarns

As every mill man knows, each fiber and blend presents different problems in spinning—problems that can vary on different drafting systems. As a result, there can be no one cot material that will work equally well on every combination of frame and fiber. That makes the selection of the right cot important to your getting maximum production of quality yarn.

The training and wide experience of your Armstrong man can be helpful in picking the right spinning cot for your specific mill conditions. He can make dependable recommendations based on the wide range of materials available in the Accotex line.

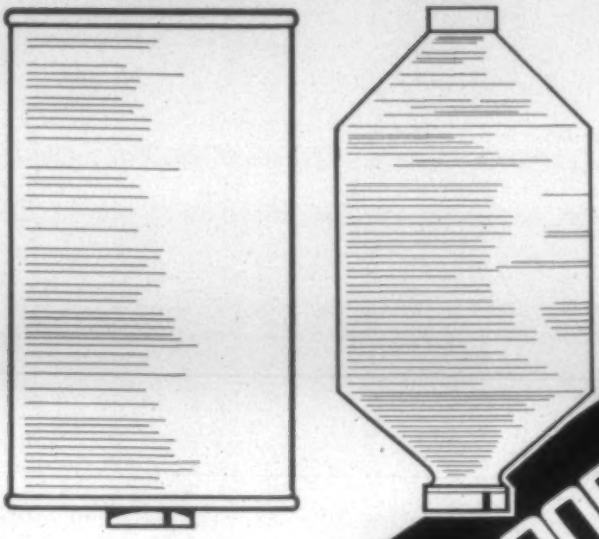
For example, if your lap-up rate is increasing, new Accotex anti-static cots may give you the help you need. Where eyebrowing is a problem on spinning and roving frames with flat clearers, a switch to Accotex NC-762 Cots will help to eliminate it.

On some drafting systems, a softer cot material has been found to improve break strength and reduce yarn irregularities. Accotex Cots made of softer compounds are available to meet this need.

On any frame . . . with any fiber or blend . . . Accotex Cots will help you get maximum production of quality yarn. Your Armstrong man will be glad to help you select the right roll cover for best performance on your frames. Call him or write to Armstrong Cork Company, Industrial Division, 6512 Davis Avenue, Lancaster, Pennsylvania.

Armstrong ACCOTEX COTS

. . . used wherever performance counts



AKRON SPOBBIN* BREAKS THE PACKAGE BARRIER

Already Acclaimed one of the Greatest Strides in the History of All Spun Yarn Manufacturing

Akron Spool and Manufacturing Co. has developed an inexpensive process to convert your present roving bobbins to AXIALLY TRUE SPOBBINS which will give you bigger packages and better running work at lower cost.

SPOBBINS Give You All of these Advantages Immediately

Bigger Roving Packages by 50-100%

SPOBBINS permit ⅝" more length of full lay between the flanges. Flange diameters can be increased to give wider packages for the full length.

Improved Quality

Reduced handling and longer runs between roving doffs, less creeling and virtual elimination of break-backs in spinning due to sloughing, render a pronounced upgrading of yarn quality.

Higher Efficiency and Production

By decreasing downtime, piecing-up time, and greatly increasing running time, efficiency gets an impressive boost on roving and spinning frames.

Costs Slashed

Reduced unit cost from higher efficiency, reduced labor cost for doffing and creeling, practically no roving waste due to sloughing, lower bobbin inventory and replacement cost, all add up to tremendous savings.

Longer Life

Akron SPOBBINS with "Sleeve-Lok"* construction and hard bone grade concentric fiber flanges assure longer service and protect the roving and base from damage. They also provide uniform unwinding from spinning skewers or hangers.

The SPOBBIN was developed in close cooperation with Ideal Machine Shops and they are fully qualified to make the necessary conversions of your roving frames.

*Trade Name—Patent Applied For

Akron Spool and Manufacturing Co.

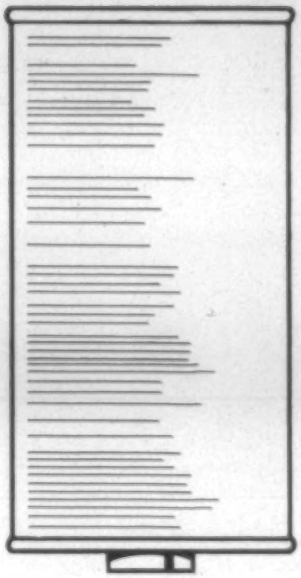
410 Progress Street
High Point, N. C.
Telephone 2-4423 and 2-4323

Only IDEAL gives you Fullest Value from your Spobbins*

On
Coarse Counts
Fine Counts
Long Staple
Short Staple

Carded
Combed
Wool
Synthetics
Blends

11" x 5½" bobbin



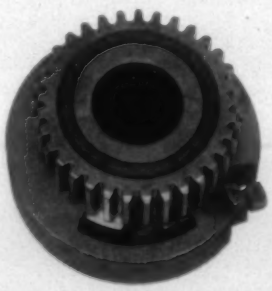
12" x 6" Spobbin

Ideal engineers have worked closely with Akron Spool & Mfg. Co. to further increase Spobbin capacity and efficiency. Akron Spobbins plus Ideal Roving Frame Conversions produce better running work and permit both roving and spinning frames to run two to three times as long without doffing or recreeling.

Example. Exhaustive tests in a leading mill have shown that a 11" x 5½", 32 oz. bobbin converted to a 12" x 6" Spobbin—plus Ideal's conversion—increases capacity to 67 oz. Conversion of this bobbin to 14" x 7" Spobbin is also practical, thereby increasing overall capacity tremendously.

Ideal's Flyer Conversion Includes spreading, lengthening, squaring and bracing shoulders to accommodate Spobbins and minimize ballooning at high speeds, plus Ideal Drop Pressers to produce a firmer wind.

Ideal Adjustable Spindle Steps These regulate height of each flyer relative to its bolster regardless of wear or inaccuracies in spindle length, steps, or bobbin gear. These steps can be applied to ANY roving frame even where Spobbins are not used.



Ideal Adjustable Delayed Action Clutch** (Shown at left) This produces a firm even lay of the roving over the entire space between Spobbin heads and prevents runovers, tangling, and ends down at the roving frame. It also prevents breakbacks, due to sloughing, at spinning.

Plus Ideal's standard reconditioning or replacing of spindles, bolsters, and flyers if necessary.

The Cost? An Ideal Spobbin Conversion will pay for itself in a few months. Let us quote you.

*Trade Name of Akron Spool & Mfg. Co.
**Pat. Applied For

CONTINUOUS SERVICE TO TEXTILE MILLS SINCE 1925

Ideal Machine Shops, Inc., Bessemer City, N.C.

For The Textile Industry's Use

– NEW MACHINERY, EQUIPMENT AND SUPPLIES –

The Ustermatic, Uster's New Tying Machine

The Uster Corp., Charlotte, N. C., introduced its new Ustermatic tying machine at a special showing in Charlotte November 10. Of completely new design, the Ustermatic is said to be the result of many years of development. With modern enclosed design and dustproof housing, the unit reportedly has a tying range of from 60 to 650 knots per minute.

A universal machine, it can handle the full yarn range in flat sheet, lease, or in combination. For a change-over, a knob is simply turned for each set of ends. The operator can also select, without tools, the regular dog knot or the secured knot for slippery type yarns such as nylon, Orlon, etc. Uster claims the Ustermatic will tie practically every known warp material, and that the ingenious knotting device can handle the extreme range of counts almost without change.

An automatic stopping device will stop the machine in the case of double ends or flats in the lease. Also featured is an automatic repeating device which can be pre-set for from 1 to 22 repetitions. After a pre-set number of attempts to separate an abnormally thick place or crossed end, the machine will stop automatically if proper selection is not made. However, after each repetition the machine speed will be reduced in order to provide better conditions for separation, and original speed will be resumed when proper separation is made.

A simple and original construction of the scissors offers two shearing blades with four cutting surfaces which can be set in four different positions without tools. This arrangement allows between 10 to 30 million cuts without sharpening, Uster reports.

The Ustermatic is equipped with an automatic advance motion guided by feelers which is independent of yarn count or warp density. Also, the built-in ventilator allows a continuous air current to be blown through the knotting device in this area to prevent clogging.

Maintenance is said to be simple. Both cleaning and lubrication can be achieved by simply removing a plug and running the machine in a bath of Varsol, and then by operating it in a bath of oil. These containers are furnished with each Ustermatic.

The tying frame is fully adjustable by means of a single comb-handle, and it can also be tilted to the angle desired for any practical situation. Clamps with lockable tooth gaps are used to prevent crossed ends and simplify warp preparation. The slasher warps can be fitted with such a clamp before removal, and the woven-off warp can be clamped before the ends are cut. In this manner, crossed ends are avoided, and the yarn sheet is kept in the original good condition for tying.

(Request Item No. L-1)

Charles R. Harris and Hans Winiger of the Uster Corp. inspect the new Ustermatic tying machine.

Zefran Dyeing

One-bath systems for union dyeing blends of Zefran and wool have been announced by The Dow Chemical Co.'s textile fibers department, Williamsburg, Va.

This new development is said to make possible union dyeing of woolen type piece goods of Zefran and wool with temperatures, dyeing times and dyestuffs common to woolen dyehouses. The new process makes possible a broad spectrum of shades, with fastness properties comparable to similarly dyed 100% wool fabrics.

The relative ease with which woolen type fabrics of Zefran and wool can be dyed is predicated on two key points: (1) that neufral premetalized colors in light shades exhibit preferential affinity for the Zefran and leave the wool portion of the blend white or near white; (2) that certain selected milling acid colors exhibit preferential affinity for wool.

By combining colors from these two classes the dyer is equipped with a "dual control" system, according to Dow's textile development group. He can therefore readily make shading additions to either one or both fibers. These are said to be ideal conditions for union dyeing.

Where heavier shades are required, the same technique is employed using the same classes of dyestuffs. However, as the depth of shade increases with N.P.M. colors on Zefran the wool also dyes to a light shade. The wool is then brought to shade with milling acid colors.

Brighter shades which cannot be achieved with true N.P.M. colors require the use of direct colors on Zefran. The colors generally used are those commonly referred to as "wool white" dyestuffs which dye Zefran with minimum staining of the wool component. The wool is brought to shade with milling acid colors as above. This is comparable to techniques for dyeing wool-cellulosic blends where close control of dyeing conditions is required to achieve acceptable dyeings.

(Request Item No. L-2)

Safety Plunger Can

A new safety plunger can for dispensing flammable or volatile liquids has been introduced by Eagle Mfg. Co., Wellsburg, W. Va. It is to be used in many industrial and maintenance operations where cleaning must be done with gasoline or other similar liquid. The new Eagle safety plunger can is approved by Associated Factory Mutual Fire Insurance Companies.

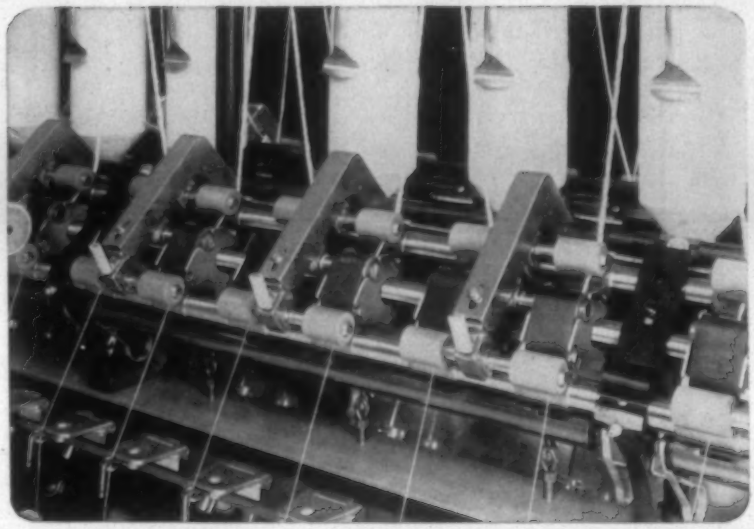
Close control of the flammable liquid is said to be possible with the new can. Pressing down on a spring-mounted dasher forces a measured amount of the fluid to rise and dampen a swab, brush, sponge or cloth. Moistening the cleaning swab is done easily with one hand while the operator holds in his other hand the item to be cleaned. Dangerous evaporation loss is reduced in operation of the plunger can. A perforated metal screen in the dasher acts as a fire baffle against ignition of contents of the can.

Constructed of one-piece 24-gauge terne coated steel, the new Eagle plunger can is built for long, reliable use. It has a seamless body. The top and body are electrically

THE MOST SENSIBLE ANSWER TO GADGET-FREE TOP ROLL SUSPENSION

ROBERTS *PosiWate* SUSPENSION SYSTEM

PosiWate Ball Bearing Top Roll Suspension eliminates all cap bars and the need for top roll oiling. All three lines of top rolls have double-row ball bearings; heavier weighting can be handled when required. Weight distribution is positive. Hooks, short springs and other gadgets are not used. Roberts Ball Bearing Bottom Rolls with EvenGrip Fluting are also available.



A FEATURE OF

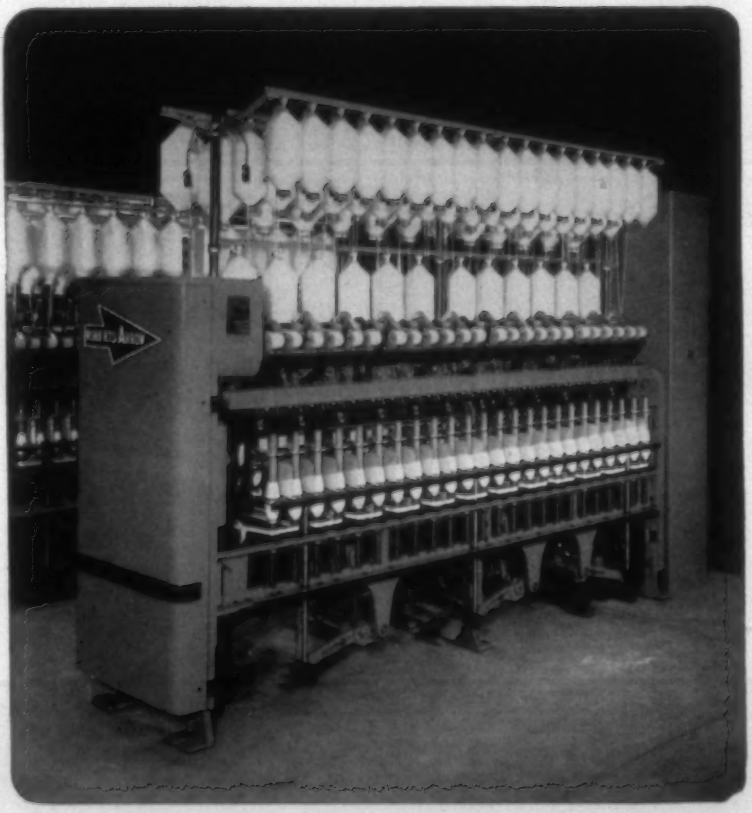
ROBERTS ARROW

MODEL M-1

and changeover modernization for any make of frame

ARROW M-1 SPINNING FRAMES

for cotton and for synthetics 1½ to 3¼ inches long



- PosiWate Top Roll Suspension
- UnaRing Balloon Control
- EvenGrip Fluted Bottom Rolls
- Roberts Supreme Ball Bearing Spindles
- Double-Apron High Draft System
- UnitVac Power-Suction Cleaning
- Roberts All-Ball-Bearing Head
- Unitized Sectional Frame
- AeroCreel with Latch-Type Bobbin Holders

ROBERTS COMPANY

SANFORD, NORTH CAROLINA

FOR THE TEXTILE INDUSTRY'S USE—

welded under electronic control. The new can is available in 1 qt., 2 qt., and 1 gal. capacities. (Request Item No. L-3)

Water Repellent

An improved version of the textile agent known as Impregnole has been announced by its manufacturer, Warwick Chemical Division of Sun Chemical Corp., Washington, D. C. The improved Impregnole, a treating agent imparting water repellency and soil resistance to fabrics, is now said to be capable of providing this result over a wider range of fabric finishes. In addition, the improved compound is described as compatible with many more combinations of textile finishing chemicals. It is more durable also on a broader range of fabric constructions. (Request Item No. L-4)

Irgalan Blue

A new dye, Irgalan Blue FGL, which is recommended for general use on wool, nylon or silk, has been developed by the Geigy Dyestuffs Division of the Geigy Chemical Corp., Ardsley, N. Y. Irgalan Blue FGL is said to be noticeably greener and considerably brighter in shade than Irgalan Blue GL and to have the added advantage of slightly higher light fastness.

Bulletin 117-G lists the following points of interest regarding Irgalan Blue FGL:

(1) Good fastness to fulling, mill washing and carbonizing.

(2) Excellent neutral drawing properties, well adapted for dyeing wool in blends with cellulosic and synthetic fibers.

(3) The new dye holds its shade well in artificial light.

(4) Minimum shade change from acid chlorination shrinkproofing treatments.

The bulletin displays dyeings which show the shade produced on wool, nylon or silk, as well as fastness ratings on wool and spun nylon. It also gives details about dyeing procedure, characteristics and fastness properties on wool and spun nylon.

(Request Item No. L-5)

New Maroon Brown

The first radically new development in vat dye chemistry in recent years has been announced by the dyestuff and chemical division of General Aniline & Film Corp., New York City.

This new vat dye development, called Indanthrene Maroon Brown B Infra Paste, is a homogeneous or straight vat brown dye, producing a maroon brown shade which is said to be characterized by good fastness on cotton, rayon, and other cellulosic fibers.

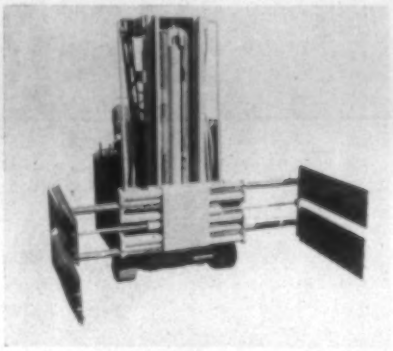
The shade of maroon brown displayed by this new vat dyestuff is particularly applicable for use in fabrics which are exposed to frequent washings, such as dress materials, blouses, play clothing, children's apparel, etc.

Besides its ability to produce a fine range of self shades in pastels and full depths, it is a desirable base component in combination with other suitable vat dyestuffs for producing deep brown and chocolate shades.

In addition to excellent wash fastness, this product is said to feature good economics, superior paste quality, and good resistance of the soluble leuco to over-reduction during application.

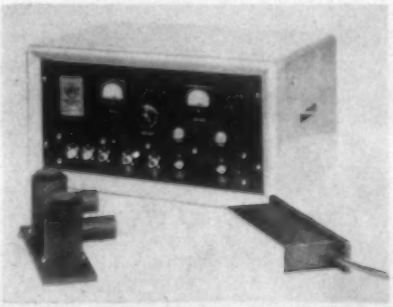
(Request Item No. L-6)

Lift Truck



A new side shift load grab with multi-purpose arms is being offered by Lewis-Shepard Products Inc., Watertown, Mass. The SpaceMaster Model J with cascade clamp and Little Giant multi-purpose arms makes it possible to handle almost any type of non-palletized load. The all-purpose arms are especially designed to handle bales, drums, rolls, etc. The arm gripping surface is either smooth or rough-top rubber bonded to steel sheets which are screwed to the plates. Other types of surfacing are also available. (Request Item No. L-7)

Photoelectric Seam Detector



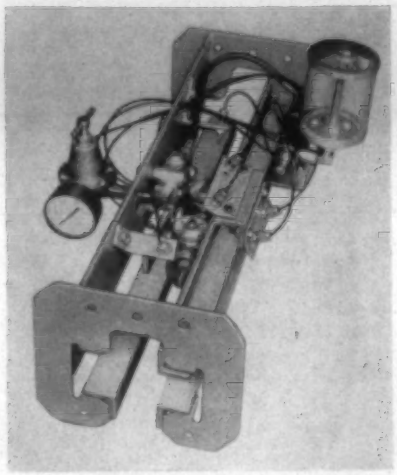
A new seam detector employing two phototubes and said to minimize unnecessary machine down time caused by detectors being actuated by wrinkles, slubs, etc., is being manufactured by Lindly & Co., Mineola, N. Y. The two phototubes are so arranged as to receive the same change of light within a small but adjustable time interval of each other. This arrangement is said to prevent incidental wrinkles, or the like, from activating the control unit.

When used on sheeting, the Lindly seam detector housing contains two laterally spaced phototubes inserted between or under the folds of the sheeting. The phototubes are illuminated through the cloth by two light sources on the other side of the cloth, separated by the same distance as the

phototubes. A seam passing by the two phototubes changes the amount of light falling on them, creating an electrical impulse which is amplified to actuate an appropriate signalling, counting or other device. Although developed specifically for application on cotton sheeting, the unit is said to have numerous other applications within the textile field.

(Request Item No. L-8)

Conveyor Trolley Lubrication



A new American 10-jet lubricator, which assures positive lubrication for the eight wheels and two ball-and-socket joints of American Chainless conveyor trolleys, has been introduced by the conveyor division of American MonoRail Co., Tipp City, Ohio. The Chainless was formerly known as the Landahl conveyor.

The jet lubrication system is designed to accurately direct oil into the wheel bearings and joints with a minimum of loss or dripping. Each jet is properly positioned at the factory. Lubrication is more positive and thorough than with mist-type oilers, it is reported by the manufacturer. The lubricator operates under approximately 40 lbs. air pressure. (Request Item No. L-9)

New Vat Dyes

The application of aqueous vat dyes without a reducing agent, to provide sharper, more intense colors than can be obtained economically by other methods of textile printing, is covered in a U. S. patent issued recently and assigned to The Du Pont Co., Wilmington, Del.

The new process differs from current printing methods in that vat dye pastes are incorporated in a water-in-oil emulsion that permits printing without immediate development. Certain features of the Du Pont pad-steam continuous dyeing process are employed for the color development. The new technique offers higher textile printing speeds than are usually attained with the conventional vat dye printing process.

A wide variety of specially developed colors are available for use with the process, the company announced. The colors are said to be easily emulsified, to exhibit good application properties, to be easily removable from equipment after a run, and to be so stable they can be used weeks after preparation without fear of deterioration. In many cases, the apparent strength of the prints obtained is double that obtained by printing the same color by conventional means.

Conventional printing equipment is used in applying the vat dye emulsion. After drying, the prints are developed by impregnation with reducing agents and alkali. Then they're steamed in a "flash ager," oxidized, and soaped lightly. One of the big advantages is that the printed fabric, after drying, can be stored indefinitely and developed later, with no loss of color.

(Request Item No. L-10)

Recording Thermometer

The Pacific Transducer Corp., Los Angeles, Calif., announces a new low cost recording thermometer with dry stylus. The thermometer uses a dry scriber so that there is no ink to run on moist paper or to dry up at temperatures above the boiling point.

The thermometer, which uses a spring-wound clock movement, is made in two different time ranges, either 20° F. to 220° F. or minus 40° F. to 160° F. The different time ranges available are either 24-hour or 7-day. The bimetal actuating element can be reset by the user if the need for recalibration should ever arise. The over-all dimensions of the thermometer are $3\frac{13}{16}$" diameter by $2\frac{7}{8}$" high. The diameter of the chart is $3\frac{3}{8}$". The unit weighs 14 ozs. Its case is made of black anodized aluminum. Designated Model 585, the unit sells for $37.50, F.O.B. Los Angeles.

(Request Item No. L-11)

For the Mill Bookshelf

Truck Loading Docks

The Kelley Co., Milwaukee, Wisc., manufacturer of Hi-Lo Adjustable Dockboards, is offering a new informative kit containing facts, figures and equipment data of interest and value to those planning a new or improved truck loading dock.

Featured in the kit is an 8-page booklet entitled "Loading Docks and Yards." Compiled from information published by the A.T.A., Truck Trailer Mfg. Association, S.A.E., etc., the booklet includes design standards and efficiency ideas that are said to speed the in-and-out movement of trucks.

The new Hi-Lo Adjust-A-Lip Dockboard is also featured in the booklet. Several applications of this new unit in, on top of and in front of dock facilities are illustrated.

(Request Item No. L-12)

Du Pont Trademarks And The Textile Identification Act

An illustrated booklet on how to use Du Pont trademarks properly in compliance with the Textile Fiber Products Identification Act is being distributed by The Du Pont Co., Wilmington, Del.

The 16-page booklet shows how such Du Pont trademarks as Orlon for its acrylic fiber and Dacron for its polyester fiber may be properly used on tags and labels for apparel and other items, as well as in advertising and promotion copy. Illustrations detail how the trademarks should be used in compliance with the new act, which basically requires that all consumer textile fabrics be identified as to fiber content after March 3, 1960. (Request Item No. L-13)

New Roller Bearings

New HJ series roller bearings, featuring a patented 1-piece cage design, are described in detail in Catalog 359, now available from the Torrington Co., Torrington Conn.

The unique cage design is said to permit use of the new bearings at speeds higher than possible with conventional full complement roller bearings. In addition, longer and larger rollers make possible greater load capacities than heretofore available. The bearings are furnished with or without inner rings, and without inner rings may be applied directly to hardened and ground shafts.

Boundary dimensions of the new Torrington HJ series conform to AFBMA Series NAA and NAB, and the bearings are interchangeable with needle bearings made to these standard inch-size dimensions. Bore sizes range from ¾" to 4".

The distinctive cage design utilizes a cage bar depressed within the roller pitch circle. The rollers are retained by the middle portion of the cage bars which are never in contact with the rollers during operation. Needless wiping away of lubricant, common with ordinary cylindrical cages, is thus said to be eliminated. Roller guidance takes place at the ends of the rollers and at the pitch line for most effective guidance and minimum friction.

The new bearings are designed to give extremely long service life, combining highly effective roller guidance, minimum internal friction and generous provision for lubrication to permit operation at higher speeds. (Request Item No. L-14)

Potato Starch

A description of the characteristics and applications of potato starch available for the textile industry is included in a new bulletin from Morningstar-Paisley Inc., New York City. The 4-page bulletin gives detailed descriptions of important physical properties of potato starch and relates these properties to textile processing. In addition, the bulletin contains data on warp size preparation and outlines the advantages of potato starch in warp sizing, thread dressing, and fabric finishing.

The bulletin will be of interest to textile and thread processors because of recent improvements in potato starch through plant modernization and precise quality control methods. The company reports that high-quality textile potato starches will meet the following standards: (1) high cleanliness—freedom from pulp, fiber, dirt, grit and specks; (2) uniform moisture content, without the brownish color caused by over-drying, or soggy feel and grayish color caused by under-drying; (3) low ash content (0.2 to 0.3%) to assure a more uniform paste with no unexploded granules; and (4) a slightly acid pH to meet requirements of water obtainable in the majority of localities.

Advantages cited for potato starch include: (1) elimination of the need for weighters or moisture attractants; (2) high viscosity reduces the amount of potato starch that has to be incorporated into the sizing formulation; (3) because of its slower rate of set-back, potato starch intermingles with the fibers to offer a well-protected yarn; (4) because of its ability to absorb and retain moisture over a long period of time, potato starch contributes to more flexible warps and rounder and smoother beams; (5) long moisture retention allows the lowering of relative humidity in weave sheds; and (6) the dried film is highly soluble in water, so the size is removed more easily than with cereal starch products.

(Request Item No. L-15)

Steel Strapping

A new booklet published by Signode Steel Strapping Co., Chicago, Ill., tells how to save time and effort and do a better, more uniform job of steel strapping. It describes many of the ways in which air power strapping tools are serving industry. Useful data and descriptions of Signode's complete line of air power tensioners and sealers are included in the booklet.

(Request Item No. L-16)

Helical Gear Speed Reducers

Information on its complete line of helical gear speed reducers is contained in Book 2751, published by Link-Belt Co., Chicago, Ill. This new 20-page book consolidates all of the company's expanded line of in-line helical gear speed reducers in a single catalog.

"In-Line Helical Gear Speed Reducers" provides complete selection data on 20 reducer sizes in double, triple and quadruple reductions. These sizes are divided as follows: Double reduction—eight sizes, ratios from 6.2:1 through 38.4:1, up to 206 h.p.; triple reduction—seven sizes, ratios from 47.1:1 through 292:1, up to 44 h.p.; and quadruple reduction—five sizes, ratios from 195:1 through 2,217:1, up to 3.08 h.p.

Book 2751 contains tables of load classes and service factors for all in-line helical gear speed reducers. Horsepower and torque ratings, dimensions, overhung load for high and low speed shafts, and mounting arrangements are given along with a resume of construction features.

The new publication also contains selection information on motor couplings and geared flexible couplings designed for use on Link-Belt's in-line helical gear speed reducers. (Request Item No. L-17)

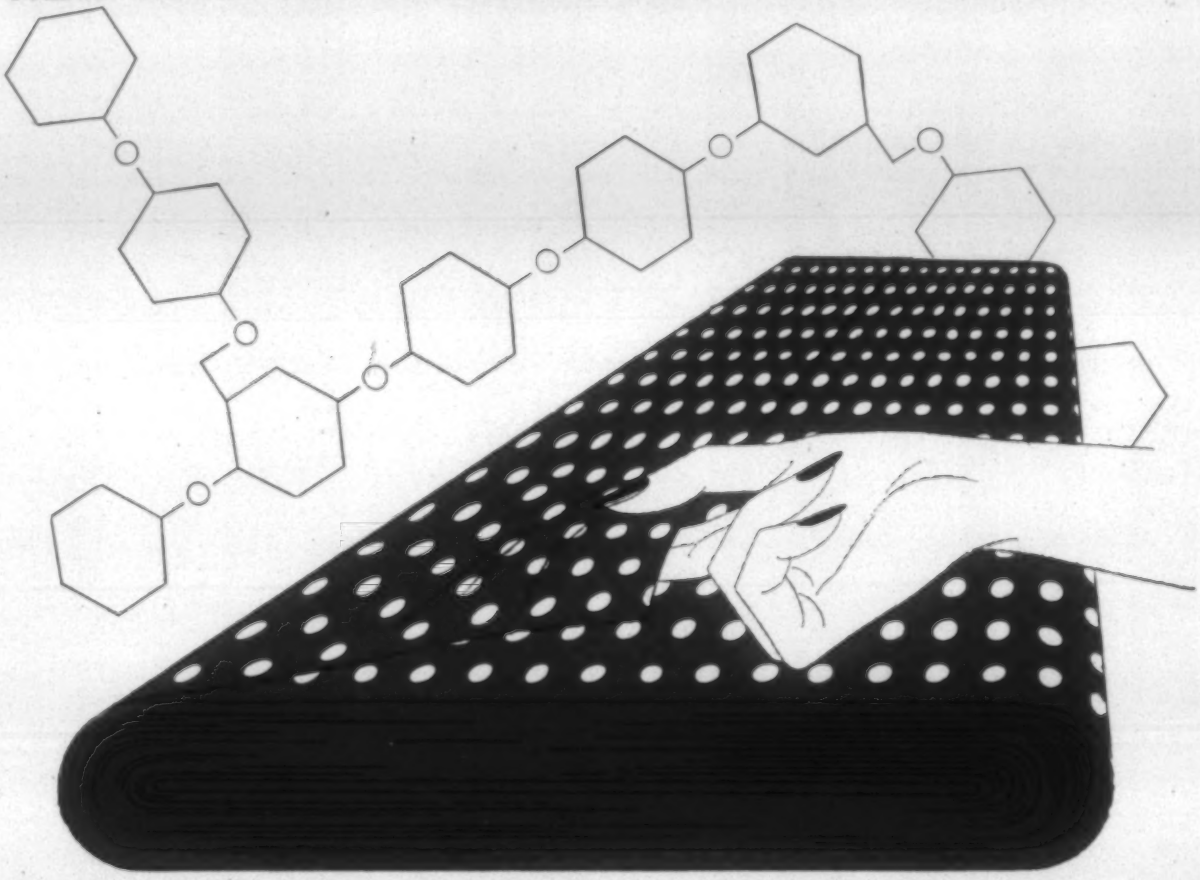
Ultrasonic Cleaning

A new service bulletin recently published by Oakite Products Inc., New York City, pioneer manufacturer of specialized chemical compounds for industrial cleaning and metal treating, gives six practical tips about ultrasonic cleaning.

Based on extensive field work with this fast-spreading cleaning method, Bulletin No. 16A describes the process by which

Kosol

NEW COLD WATER DISPERSIBLE HAND BUILDER



IMPROVES HAND OF WASH 'N WEAR FABRICS

KOSOL is a new kind of hand builder. With a branched chain type structure that cross-links more readily with resins. Clear. Colorless. Gives a new fullness to wash 'n wear finishes.

KOSOL takes only minutes to prepare. No cooking. No cooling. You simply disperse in cold water. Add to resin mixture. Then apply to fabric!

KOSOL is compatible with all resins now in widespread use. It's another development of textile research at National. Try it for that little extra that means so much in fabrics. Write or call your nearest National office.

TEXTILE DIVISION

National STARCH and CHEMICAL CORPORATION

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3641 So. Washtenaw Avenue, Chicago 32
87 Haynes Street, N.W., Atlanta 3

FOR THE MILL BOOKSHELF

high frequency sound waves impart intense scrubbing action to solutions to speed precision cleaning. The method's success, however, depends in large measure on the cleaning solution, according to the bulletin, which describes compounds which have proved effective, and the types of operation ultrasonic cleaning does best.

(Request Item No. L-18)

Portable Vacuum Cleaners

Spencer Turbine Co., Hartford, Conn., has issued a bulletin describing its new Air Jet portable vacuum cleaners developed for use in hazardous areas. Powered from existing compressed air lines, the units have no motors and no electrical wiring. Hence, non-sparking operation is assured and the cleaners may safely be used in dust-filled atmospheres.

(Request Item No. L-19)

Motion-Control Sheave

T. B. Wood's Sons Co., Chambersburg, Pa., has issued Bulletin No. 8102 describing its MCS variable-speed sheaves with resilient cam-follower design that eliminates freezing and sticking and will hold a constant driven speed under varying torque loads. Patented construction is shown by cutaway photo and diagram. Tables facilitate the selection of companion sheaves and belts to meet specified drive requirements. Sure-Grip companion sheaves, Sure-Grip variable-speed belts and motion-control motor bases are also covered in the 8-page, 2-color, letterhead-size bulletin.

(Request Item No. L-20)

Water Conditioning

A new bulletin on Rota-Rake clarifiers and thickeners, water and liquid treatment units, is available from Graver Water Conditioning Co., New York, N. Y. It will be of interest to all users of horizontal flow gravity separation equipment.

The new bulletin, WC-123, contains drawings and data on the main Rota-Rake model types. These include bridge-supported and center-post designs from 10' dia. or sq. to over 150'. Included is a description of Rota-Rake operation and a discussion of design features such as the submerged orifice plate water collection system, the heavy-duty box-truss scrapers, Protecta-Trol overload recorder and the hydraulic lifter for the sludge scrapers.

(Request Item No. L-21)

Variable-Speed Belts

Catalog VSB-1, a new 32-page belt selection guide for variable-speed belt users is available from Maurey Mfg. Corp., Chicago, Ill. In addition to ratings, sizes and engineering data, the book provides such handy reference information as alphabetical listing of applications; numerical listing of manufacturer's part numbers; numerical listing of applications; and variable-speed cross reference tables.

(Request Item No. L-22)

Surface Active Agents

A new 24-page bulletin describes the line of synthetic surface active agents and detergents for industry produced by Swift & Co., Chicago, Ill. Identified by the brand name Solar, these products include various forms of liquid concentrates for wetting, emulsification, suspension, dispersion, etc., and solid materials for use as detergents, wetting agents, emulsifiers, etc. The bulletin gives chemical and application specifications for over ten materials.

(Request Item No. L-23)

Measuring Tools

Scherr-Tumico, New York City, has announced the availability of its new 1959-60 Guide & Catalog of precision measuring tools and instruments consisting of 96 fully-illustrated pages. This catalog contains complete detailed information on Scherr measuring tools and toolroom specialties, such as a complete line of micrometers, Vernier depth gages, snap gages, protractors, dial indicators, Ultra-Chex gage block sets, height gages, speed indicators, hand tachometers, dynamometers, radius dressers, optical flats, surface plates and Magni-Ray illuminated magnifiers.

Also illustrated is a complete line of Zeiss indicating micrometers and compara-

tors, Zeiss orthotest, Scherr micro-projector, Cycloptic steroscopic microscope, Scheer toolmakers' microscope, spur gear tester, Parkson gear tester, Kesel circular and linear dividing machines, profiling, engraving and milling automatics, Cima universal gear hobber, Cornelis thread generating machine, Opto tooling auto collimator, OMT optical rotary indexing table, and Zeiss optical precision measuring instruments. (Request Item No. L-24)

New Textile Testing Price List

The textiles division of the United States Testing Co., Hoboken, N. J., has announced the publication of a new price list covering its services in the textile field. (Request Item No. L-25)

Heating Coils

A new 32-page detailed product bulletin describing the construction and operation of the Kennard/Nelson heating coils has been released by American Air Filter Co., Louisville, Ky. The new bulletin is complete with explanations, graphs, charts and illustrations for standard steam, hot water, steam distributing and double distributing coils.

Included in Bulletin No. HS-102 are construction and dimension data, air friction charts, temperature rise charts for pressures ranging from 2 lbs. to 30 lbs. steam, condensate rates, water velocity and pressure drop graphs, heat transfer factor graphs, M.T.D. chart, and net weights for different lengths and coil sizes.

Information such as architectural specifications for different types of coils, coil design formulae and piping diagrams also are features of the heating coil bulletin. (Request Item No. L-26)

Fire Prevention

A new pamphlet dealing with industrial fires has been published by the National Safety Council. "Fred Flame, the Fiery Delinquent" is a 16-page illustrated pamphlet that begins: "Fred Flame was born one morning at the McDoke Company. His mother was a fine fire, but his father was just trash. . . ." Single copies of the pamphlet are available free from the National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill.

Productivity Tables

"Efficiency and Productivity Tables for Textile Machine Operation," is the title of a book recently published by Thomas F. O'Connor. The book is based on O'Connor's consulting work for a large number of Southern mills, where his system is in use. The book contains detailed procedures with worked examples showing how to set machine assignments for best results, taking into account such important factors as work-load, production cost and investment return.

It contains 57 pages of tables showing standard machine efficiencies, productivity factors and work-loads under varying machine assignments and work conditions. The volume is of the loose-leaf type, allowing each page to lie flat for ease and convenience in use. Price of the volume is $25 per single copy and $17.50 per copy for two or more. It is available from Thomas F. O'Connor, P. O. Box 3228, University Station, Charlottesville, Va.

Evaluation Of Stocks

"The Evaluation of Common Stocks" is the title of a new book by Arnold Bernhard, founder and editor of the *Value Line Investment Survey*. Bernhard attempts to set forth objective methods for evaluating common stocks. The book includes tables of 804 stocks ranked according to four desirable attributes:

(1) Probable market performance in the next 12 months

(2) Appreciation potentiality over a 3 to 5 year period

(3) Quality (or long term safety record)

(4) Yield (estimated for the next 12 months)

The ranking of stocks will be updated in January and June of 1960. These supplements will be available to purchasers of the book free of charge. The book is available from Simon & Schuster, 630 Fifth Ave., New York City.

Serving The Textile Industry

Du Pont Building Plant To Manufacture Acrylonitrile

A plant to manufacture acrylonitrile by a new low-cost process will be built by the explosives department of The Du Pont Co., Wilmington, Del., on the company's present plant site near Beaumont, Tex., it was announced recently. This unit is the second one to be announced this year by the company for acrylonitrile, a raw material used in the manufacture of Orlon acrylic fiber. The other plant, now under construction at Memphis, Tenn., will be operated by the electro-chemicals department.

Construction of the new unit, to be handled by the company's engineering department, will get underway immediately. Du Pont anticipates that operations will start up in the Spring of 1961. The peak construction force will total about 350 persons, and operations will provide about 75 new jobs in the area.

Acrylonitrile will be produced at Beaumont by a recently patented process involving synthesis from ammonia and propylene, originated by the central research department and developed into an operating process by the explosives department's laboratories at Gibbstown, N. J. The process for the Memphis plant uses hydrogen cyanide and acetylene and resulted from a research program carried out by the electrochemicals department. The entire output of the Beaumont acrylonitrile plant will be used within the company for the production of Orlon.

Foster Machine Co. Expands Office, Engineering Facilities

Extensive additions to its office and engineering facilities have been completed at the Westfield, Mass., plant of Foster Machine Co. The company produces yarn winding machinery for all fibers. Included in the expansion move are new conference rooms which Foster states are designed to permit the company "to serve customers more efficiently and in greater comfort."

This is the twenty-first such addition to its facilities since Foster was established in 1891.

Stein Hall Opens Door On Manufacturing-Import Plant

Stein Hall Co. of New York City has opened the door on a multi-million dollar a year manufacturing and import operation in Charleston, S. C. The $800,000 plant-warehouse at Union Pier in downtown Charleston, now near completion, is being built by the S. C. Ports Authority to Stein Hall specifications and will be leased by the firm on a self-amortizing basis.

The first 150 tons of cargo for the operation was recently brought in aboard the *SS. Hoegh Cairn*.

Crawford Bonow, Stein Hall vice-president in charge of manufacturing, said the Charleston plant will process about $1,500,000 worth of products during the first year of operation.

That will be "just a minor part" of the operation compared to imports that will be brought through Charleston, he added. Some 40 employees will work the highly automated manufacturing plant and staff the laboratory which will undertake basic research in products and textile equipment.

Celanese Corp. Leases Eight Floors Of N. Y. Building

Celanese Corp. of America, New York City, has leased from Morgan Guaranty Trust Co. of New York City eight entire floors in the bank's 23-story building now under construction at 522 Fifth Avenue. Celanese has taken a 20-year lease providing for more than 200,000 square feet of office space. It announced that it plans to move its executive offices into the new quarters about the middle of 1961. The company is leasing the fourth through the eleventh floors, plans initially to occupy six floors and sublease two, having the latter available for future needs as business expands.

Present Celanese headquarters are at 180 Madison Avenue and in an adjoining building at 16 East 34th Street, where about 600 of the company's executive, administrative, marketing and sales personnel are located.

Louis Allis Co. Plans New Research Center

The Louis Allis Co., Milwaukee, Wisc., manufacturer of electric motors, generators and adjustable speed drives has announced the construction of a new research and development center in the neighboring suburb of Greendale, Wisc. The building, which will be staffed by 100 engineers and technicians, will double the size of the present engineering and physics laboratories.

According to T. R. Wieseman, vice-president in charge of engineering, the company's research and development plans include electronic and nuclear areas which will permit even greater penetration into industrial fields.

The Chemstrand Corp. Reports Drop In Sales

The Chemstrand Corp., New York City, reports that sales on a consolidated basis for the third quarter amounted to $48,720,000 compared with $52,060,000 in the second quarter of this year. Edward A. O'Neal Jr., president, said that sales for the nine months to September 30 totaled $154,915,000 as compared with sales of $119,295,000 in the same period of 1958.

Warner & Swasey Co. Shows Increased Profit

The Warner & Swasey Co., Cleveland, Ohio, earned a net profit of $3,063,228 on product income of $40,930,182 in the first nine months of 1959, according to the company's report to shareholders. This compares with a net profit of $729,541 on product income of $28,902,274 for the first nine months of 1958. Net profit for the period was $3.07 per share, as compared to 73 cents per share for the first nine months of 1958.

"Orders have continued to come in at a rate that has increased the order backlog in the third quarter to $13,555,000," Walter K. Bailey, president of the company, said in the report. "This backlog, coupled with ample inventories of steel, assures the company a favorable level of operations for the balance of the year. Product income of about $55,000,000 and per share earnings

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in excess of $4 per share may be reasonably anticipated for 1959. The outlook for the company's shipments and earnings for 1960 is very good, provided the dispute in the steel industry is settled in the fairly near future."

Marshall & Williams Agent For Three New Machinery Firms

Marshall & Williams Equipment Co., Greenville, S. C., agent for textile finishing equipment, has been selected to represent three additional companies manufacturing items for the textile industry. They are: Appleton (Wisc.) Machine Co.; Industrial Air Co., Newton Upper Falls, Mass.; and Ernest Scott & Co., Fall River, Mass. Appleton Machine manufactures schreiner, finishing, chasing, embossing, rolling and friction calenders, roll type water mangles, and cotton and combination filled rolls for the textile industry. Industrial Air produces tenter dryers, pre-dryers, coating dryers, curing ovens, hoods, and other heating, ventilating, air-conditioning and auxiliary systems. Ernest Scott is the manufacturer of Scott Suction Systems for mercerizing.

American MonoRail Co. Moves Into New Quarters

American MonoRail Co. is now officially at home in its new location, 1111 E. 200th St., Euclid, Ohio. Earlier this year, the overhead materials handling equipment manufacturer, purchased for $600,000 the prize-winning plant and grounds, including a 130,000 square foot plant and general offices on 7½ acres. More than $200,000 was budgeted to prepare the plant for MonoRail, and for actual moving operations.

Du Pont Changes Name Of Its Slubbed Rayon

The Du Pont Co. has announced that the term Ondelette will replace the term Ondule as the trademark for its random slubbed rayon yarn. The new trademark is already in use. Yarn properties and fiber characteristics of the product remain unchanged.

Owens-Corning Fiberglas To Build Plant In S. C.

Owens-Corning Fiberglas Corp., Toledo, Ohio, has announced plans to build a multi-million dollar Fiberglas textile yarns plant in Aiken, S. C. In making the announcement, Harold Boeschenstein, president, said the new facility is being built to service early requirements of the company's customers and in anticipation of increasing diversification of demands for fibrous glass yarns.

He said the new plant will be equipped with the most advanced process equipment for fibrous glass textile materials. Owens-Corning, pioneer and major factor in the fiber glass field, now has textile plants located in Anderson, S. C.; Huntington, Pa.; and Ashton, R. I. The Anderson plant is said to be the largest of its kind in the world. Five other Fiberglas manufacturing plants are located in Newark, Ohio; Kansas City, Kan.; Santa Clara, Calif.; and Barrington and Berlin, N. J.

Richard MacPherson, formerly production superintendent of the firm's Barrington, N. J., plant, will be manager of the new facility. The project engineer will be Jerry B. Holschlag, formerly the company's Ashton plant manager, and who was also the engineer for the Anderson, S. C., plant. Bonner Manly, formerly personnel relations manager of Owens-Corning at the firm's general offices in Toledo, will be personnel director.

Textile Aniline & Chemical To Handle Monsanto Products

Monsanto Chemical Co., St. Louis, Mo., has announced that Textile Aniline & Chemical Co., Lawrence, Mass., has been appointed a distributor for Monsanto's Sterox 21-K, used for the fulling and scouring of wool and wool blends. Patent application has been made by Monsanto for the product.

Sterox 21-K is a newly developed product which reduces chemical raw material costs, processing time and handling problems in textile mills. It also promotes uniform shrinkage and high tensile strength in fibers, Monsanto reports.

Textile Aniline also will distribute Monsanto's complete line of surfactants for the textile industry as well as its own line of dyestuffs and related textile products.

Sun Chemical Corp. Reports Increased Income

Sun Chemical Corp., New York City, has reported a 50% increase in per share income for the nine months ended September 30 over the same period of 1958. Net profit for the nine months was $912,434, or 60 cents per share, compared with $638,-104, or 40 cents per share a year ago.

For the third quarter, Sun reported net earnings of $349,712, or 23 cents per share, compared with $310,039, or 20 cents per share, a year ago. Norman E. Alexander, president of Sun, said that these earnings were achieved on record sales of $40,162,-225 for the nine months, as against $37,-051,151 for the comparable period of 1958. For the third quarter, sales totaled $13,-873,645, 7.6% above the $12,892,463 reported for the same period last year.

Commenting upon the nine months report, Alexander said that, "in one of the largest plant expansion programs in the history of the ink industry, Sun has opened nine new facilities in the last 12 months. This expansion program is being carried on in all our divisions. Plans are under way for new locations for textile chemicals as well as for additions."

H. J. Theiler Corp. Named Agent For Ruti Machinery

The H. J. Theiler Corp., Whitinsville, Mass., has been made exclusive agent for Ruti Machinery Works Ltd., Ruti, Switzerland, according to H. J. Theiler, president. Ruti Machinery Works produces a complete

line of looms. It also manufactures slashers, Ruti Jacquard machines, warping machines, multi-passage dryers for sizing machines, vacuum creels, etc.

H. J. Theiler has also added three specialists to its sales and service staff. A new building is being added to the present factory in Whitinsville, Mass., where the machinery is serviced and all parts are kept in stock.

Celanese Corp. Reports Higher Earnings

Celanese Corp. of America and domestic subsidiaries have reported earnings of $15,815,499 for the nine months ended September 30, 1959. They were 57% higher than the $10,082,719 earnings reported for the same nine months last year.

For the first nine months this year, Celanese product sales totaled $193,357,991, exceeding by 18% the $163,573,099 sales volume for the comparable nine months of 1958. Sales of $65,779,941 for the three months ended September 30, 1959, were 10% greater than the $59,785,897 sales reported for the third quarter last year.

Proctor & Schwartz Opens Atlanta Office

Proctor & Schwartz Inc., Philadelphia, Pa., has opened a new regional sales office at 3272 Peachtree Road, N.E., Atlanta, Ga., under the direction of Denver D. Cunningham, who has been appointed regional sales manager.

Du Pont Develops New Elastic Fiber

The Du Pont Co. has announced plans for commercial production of a new textile fiber—Lycra spandex fiber. The company reports that the new fiber may bring about as great a change in the women's foundation garment industry as nylon did in the hosiery industry. The company introduced Lycra as Fiber K for trade evaluation in April 1958.

Lycra, an elastromeric fiber which stretches and snaps back into place like rubber, will be manufactured at Waynesboro, Va., on the site where Du Pont now makes Acele acetate yarn and Orlon acrylic fiber. Construction of new production facilities has begun.

The new fiber is said to be stronger and more durable than conventional elastic thread and to weigh a third less. It gives longer wear, Du Pont reports, and has from two to three times as much restraining power.

While its major application initially will be foundation garments, its potential extends to virtually every category of textiles.

Industrial Rayon Corp. Ups Polypropylene Production

Industrial Rayon Corp., Cleveland, Ohio, has announced its plans for semi-commercial production of polypropylene staple fiber, tow and continuous filament yarns. The company's polypropylene products will carry the tradename Prolene. The decision to manufacture larger amounts of polypropylene fibers for intensive testing in a broad range of end products follows more than a year of pilot plant production and testing in a limited number of end uses, according to Frederick L. Bissinger, vice-president and general manager.

Prolene is lighter in weight than other synthetic fibers and is said to possess high strength and outstanding resistance to abrasion. It also is reported to be unaffected by water and common chemicals. The light weight of Prolene will enable greater coverage, pound for pound, than other synthetic fibers and will allow for more economical manufacture of many products, it was stated.

Industrial Rayon noted that various phases of its Prolene development program were carried out with the co-operation of Hercules Powder Co. which produces the polypropylene polymers used in the manufacture of the fibers. Hercules was the first commercial producer of polypropylene in this country.

Prolene will be manufactured in Covington, Va., where the company presently has nylon and rayon facilities, and production will also be continued at the pilot plant in Cleveland. Prolene staple and tow will be made in two to 15 denier per filament size and continuous filament yarns will be available in 210 denier and up.

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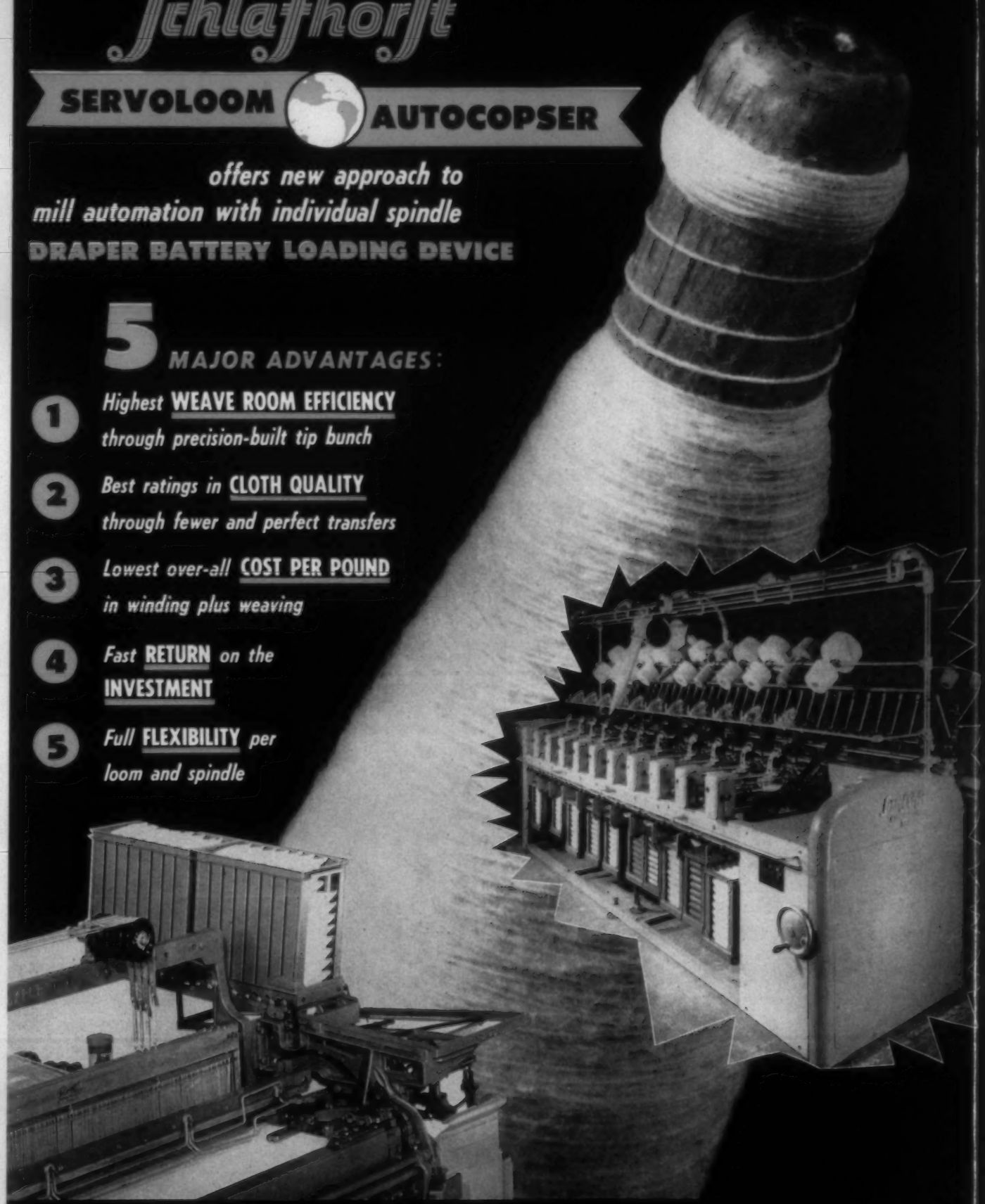

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textile bulletin

VOL. 85 DECEMBER 1959 NO. 12

the designing of Pile Fabrics

The term "pile fabric" means different things to different people. An interior decorator uses an exquisite Axminster rug, with its high luxurious pile, with a myriad of colors, as a foundation for designing a room that has warmth and comfort. He also employs an antique velvet as a covering for an individual chair, making it a conversation piece. To him, pile fabric means a rug, or velvet or plush.

At the beach or pool nothing dries so quickly and efficiently as our old friend the turkish towel. When we step out of the tub or shower, we're glad to have the pile fabric terry close by.

A mother wants her children to be kept warm in the Winter when playing outdoors. Still she doesn't want their clothing to be bulky. At the same time, the clothing should look smart and trim. Pile fabric corduroy fills the bill.

When the toddler is put to bed he goes to sleep quicker if he can cuddle up to a teddy bear. The softness and warmth of the teddy bear makes the baby feel secure. To this little one, pile fabric means toy fur plush.

What would the millinery designer do without velveteen, and what is the difference between velvet and velveteen?

These and many more fabrics will be reviewed in this series.

By E. B. Berry*

Introduction

THE field of pile fabrics is very broad, covering any fabric that has loops or tufts on the surface. These loops or tufts may be made in many different ways, which gives us a variety of useful as well as interesting fabrics. It should be remembered that "nap" is not pile. Some people erroneously refer to the "high nap" on a Wilton rug. This type of rug is a warp pile fabric, the pile surface being made by a system of warp yarns, known as pile. This is extra, and in addition to, the regular backing and filling yarns.

Since there as so many different fabrics it is necessary to separate them into broad classifications as to how they are made, and then into various types. The major classifications are:

(a) Warp Pile Fabrics (b) Filling Pile Fabrics

Some types under (a) are:

(1) Velvet (4) Frieze (7) Axminster Rugs
(2) Velour (5) Terry (8) Velvet Rugs
(3) Plush (6) Wilton Rugs

Some types under (b) are:

(1) Corduroy (2) Velveteen (3) Chenille Rugs

The fibers used in pile fabrics run the gamut of all the synthetic as well as the natural fibers. Which fiber is used will be governed by the end-use of the fabric, the weave employed, the desired effect and/or the ultimate cost of the fabric.

Listed here are some fibers, method of spinning, and end-uses as they appear in pile fabrics.

Cotton

(1) Carded Peeler (K.P.)—The everyday run of cotton which has been carded only. Seldom spun finer than a 40/1 and it may be plied. *Uses:* Pile, backing or filling.

(2) Combed Peeler (C.P.)—The everyday run of cotton which has been carded and combed. Usually spun from 20/1 to 80/1 and it is usually plied. This produces a more uniform and a stronger yarn than K.P. although the cost is higher. *Uses:* Pile, backing or filling, where yarns stronger than K.P. are needed.

(3) Carded Peeler Mercerized (K.P.M.)—The same raw material and method of spinning as K.P. only the yarn is mercerized. May be single or plied. *Uses:* Pile, backing or

*Mr. Berry is an assistant professor in the department of fabric development at North Carolina State College School of Textiles.

filling, where extra strength and/or different dyeing properties are required.

(4) Combed Peeler Mercerized (C.P.M.)—The same raw material and method of spinning as C.P. only the yarn is mercerized. May be single or plied. *Uses:* Pile, backing or filling, where extra strength and/or different dyeing properties are required.

(5) Combed Egyptian Mercerized (C.E.M.)—Yarn spun from Egyptian cotton which is long in staple, fine, and when combed, gives an even yarn with high tensile strength. When mercerized, its strength is increased even more. This yarn is expensive, and is used only when demanded by the customer or when the strength cannot be met by other yarns. Egyptian cotton is sometimes called "Sakellarides"; shortened to Sak. Usually plied, and spun into fine counts as 60/2 and 80/3. *Uses:* Backing or filling where high tensile strength is required.

Synthetics

(1) Viscose—(a) Spun: Staple viscose of any desired denier or staple length, which is spun into yarn on the cotton system. The standard is 840, the same as cotton. Viscose will take the same dyestuff as cotton, but has a greater affinity for the dye than cotton. When viscose and cotton are used in the same fabric, and dyed in the same bath, a two-tone effect is created due to the different affinity of the two fibers. Seldom spun finer than a 30/2. May be blended with cotton, mohair or wool. *Uses:* Pile mostly, but may be used for backing or filling.

(b) Filament: A range of 150 to 900 denier. May be used by itself or twisted with cotton, mohair or wool to produce a novelty yarn. *Uses:* Pile mostly, but may be used for backing or filling.

(2) Acetate—Filament: A range of 150 to 900 denier. May be used by itself, or twisted with cotton, mohair or wool to produce a novelty yarn. Acetate will *not* take many of the cotton or wool dyes, and therefore, is used to produce novelty effects, when used with other blends. *Uses:* Pile mostly, but may be used for backing or filling.

(3) Nylon—(a) Spun: Staple nylon of any desired denier or staple length, which is spun into yarn on the cotton system. May be blended with Orlon, Dacron, cotton, etc. *Uses:* Pile mostly in velours and rugs, but may be used for backing or filling.

(b) Filament: A range of 150 to 900 denier. Limited use, due to high cost, but has excellent wearing and cleaning properties. *Uses:* Pile yarn for friezes and rugs, but may be used for backing or filling.

(4) Dacron, Orlon, Arnel, Acrilan—(a) Spun: Fibers of any desired denier or staple length may be blended with each other, or with natural fibers and spun into yarn.

(b) Filament: A range of 75 to 900 denier.

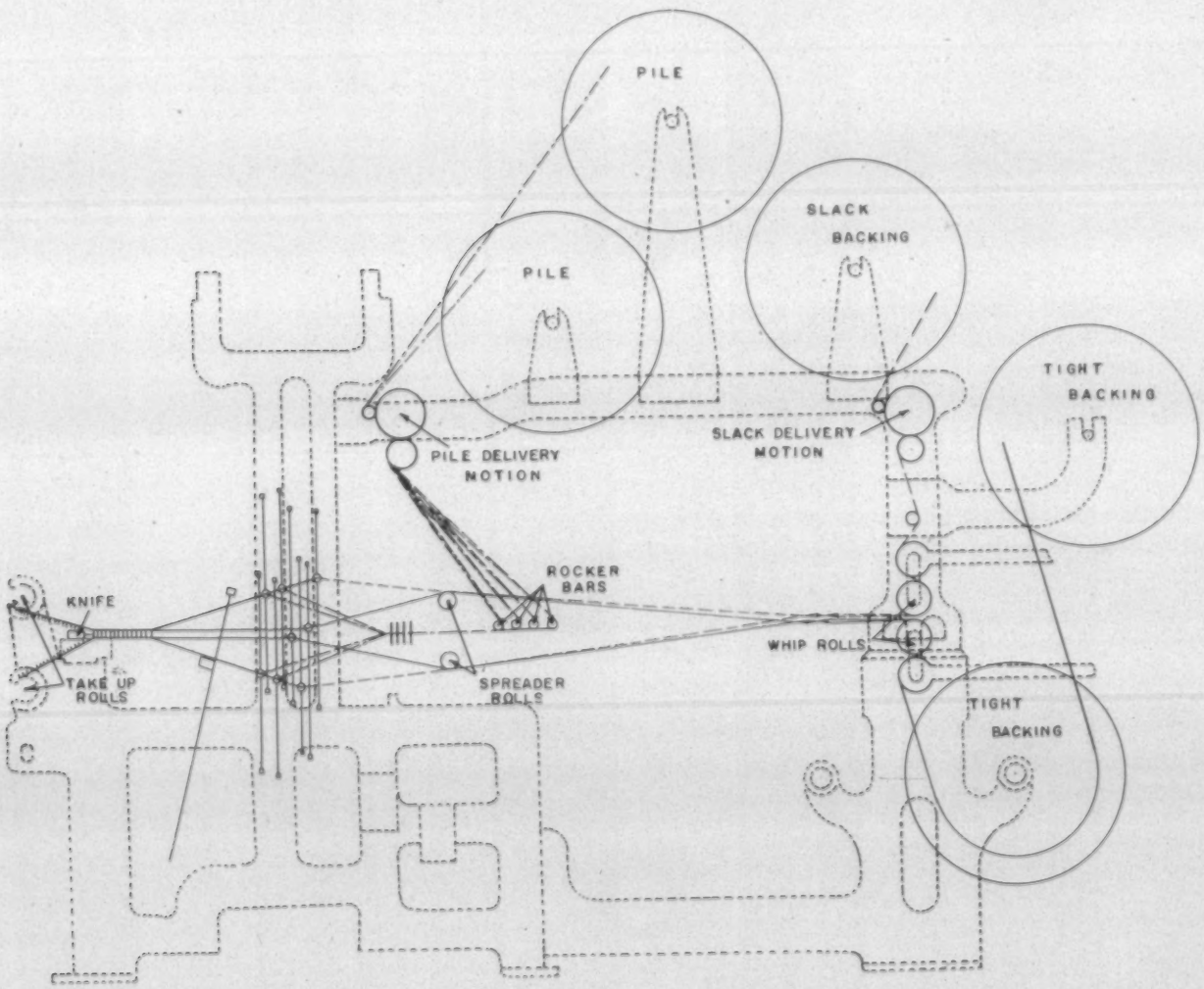


Fig. 1—A side view of a double-shuttle plush loom set up to weave a mohair plush fabric.

Uses: Pile mostly for novel effects, but may be used for backing or filling.

Animal Fiber

(1) Mohair—Fleece from the Angora goat. Has a long staple length, is very resilient and has good wearing qualities. Mostly spun on the worsted system. The standard is 560. May be used as follows:

(a) 100% Mohair—For luster, wearing qualities and resilience in the pile of upholstery fabrics and rugs.

(b) Mohair Twisted With Cotton—To keep some of the good qualities of mohair, and yet get a cheaper fabric. Also to create a novelty effect. Used as pile in frieze fabrics and rugs.

(c) Mohair Twisted With Viscose—To keep some of the good qualities of mohair, and yet get a cheaper fabric. Also to create a novelty effect. Used as pile in frieze fabrics and rugs.

(d) Mohair Twisted With Acetate—To add extra weight to the fabric without adding the high cost of the mohair. Also to dye the mohair and allow the acetate to come out white, for novelty effects. Used for pile in upholstery and rugs.

(e) Mohair Blended With Viscose—To reduce the cost of an all-mohair yarn yet keep some of its good qualities. Used for pile in upholstery and rugs.

(f) Mohair Blended With Acetate—To reduce the cost of an all-mohair yarn and also to create a "salt and pepper" effect due to the acetate not taking the animal fiber dye. Used in pile for rugs and automobile upholstery.

(g) Mohair Blended With Wool—To reduce the cost of an all-mohair yarn and still keep the wearing qualities. Also wool helps in the spinning of the yarn. Used for pile in upholstery and rugs.

(h) Mohair Blended With Alpaca—More expensive than an all-mohair yarn yet this blend has much better insulating qualities than all-mohair yarn. Used as pile in lining of jackets and parkas.

(2) Kid Mohair—The fleece from a *baby* Angora goat. The fiber is much finer than from the adult goat, and much more expensive. *Uses:* As pile in the best grade of furniture upholstery. Usually spun 100% on the Worsted System.

(3) Wool—The fleece from sheep. May be shorn from live sheep or pulled from the hides of dead animals in slaughter houses. The length of fiber is governed by the growth since the last shearing. If the fiber is short, it will be spun on the Woolen System. The standard is 1600 for Run, or 300 for Cut. Longer fibers may be blended with other fibers and spun on the Worsted System. The better grades of wool are blended or twisted with mohair, and used as pile in upholstery or automotive fabrics. Also used 100% to make imitation Karakul and Astrakhan. The low grade long straight coarse wools—which have wiry, tough and resilient properties—are used as pile in rugs and carpets. Also carpet wools may be blended with nylon, viscose and acetate to make the yarn cheaper and to create novelty effects in the dyeing.

(4) Alpaca—The fleece from the Alpaca, which is an animal used as a beast of burden in South America. It is finer and smoother than either mohair or wool, but it is more expensive and noted for its insulating qualities. The animal is shorn every two years, which gives a staple length of five to seven inches. May be spun 100%, and is blended with mohair or wool and spun on the Worsted System. *Uses:* Extensively as pile in jacket lining material or as filling and sometimes backing.

(5) Silk—(a) Filament Silk—The product of the cultivated silk worm. Yarn calculations use the denier system. *Uses:* Pile in transparent velvet, or novelty stripe in upholstery fabrics.

(b) Tussah Silk—The product of the wild silk worm. Due to the broken filaments, as the worm ate its way out of the cocoon, the fiber is spun on the Cotton System, which standard is 840. However, if 30/3 is used, the yards per pound are 840 x 30 not 840 x 10. *Uses:* Pile in seal plush or novelty stripe in upholstery fabrics.

General

(1) Paper—Strips of paper, 1/4" or 3/8" or 1/2" wide are twisted, to form a substitute for yarn. For the material used, this is very strong when dry, but pulls apart with little strain when wet. *Uses:* Filling and sometimes warp in rugs, as a substitute for jute.

(2) Jute—A bast fiber which is soft and long, but is not particularly strong or elastic. It is grown in India. The fibers are from 3 to 15 feet in length and are a creamy white to brown in color. Jute is cheap, plentiful, and is easily manufactured into yarn. If 14,400 yards of yarn weigh one pound, the yarn is 1s. If 14,400 yards of yarn weigh two pounds, the yarn is 2s, etc. *Uses:* Filling and sometimes warp for rugs and carpets.

(3) Metal—Strips of metal, in most any width, thickness or color, in the form of yarn. May be used by itself, or twisted with another yarn such as cotton. *Uses:* Backing or pile in upholstery and rugs or filling in fancy borders for towels.

(4) Mineral—Asbestos yarn spun in coarse counts. *Uses:* Pile in terry when the fabric is used for pot holders. Pile in rugs for floor covering in front of fire places.

Chapter I

Double Shuttle Plush Looms

The first four warp pile fabrics to be covered here (velvet, velour, plush, frieze) can be woven on the same type of loom. This is a double shuttle plush loom. Fig. 1 shows a side view of such a loom set-up to weave a mohair plush fabric. Before much detailed designing can be done on these fabrics, it is necessary to understand the capacities, limitations and capabilities of the looms on which they are woven. Since these looms are somewhat different from the conventional single-shuttle looms, it is necessary to understand each motion as it applies to this double-shuttle weaving.

Harness Motion

Fig. 2 is a detailed sketch of the harness motion which is of the cam type. It is possible to form the shed by a machine top or by a jacquard head. On a cam loom the harness capacity is generally ten and a limit of eight picks to a repeat. This is more than on the single-shuttle flat fabric looms. The plush loom is deeper to receive more harness and the cams are larger so eight picks can be put on the cam.

With this motion, two sheds are formed, one above the other, and two shuttles are thrown simultaneously, as seen

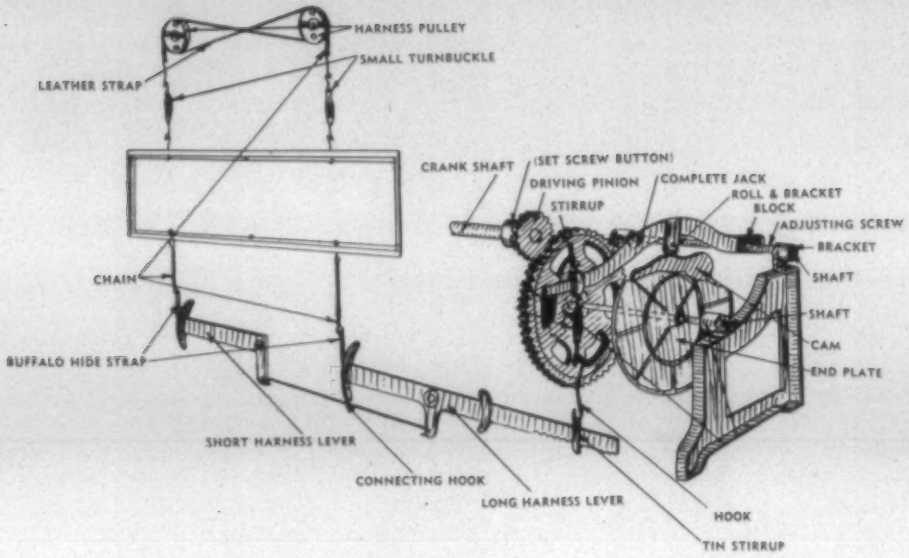


Fig. 2—A cam-type harness motion.

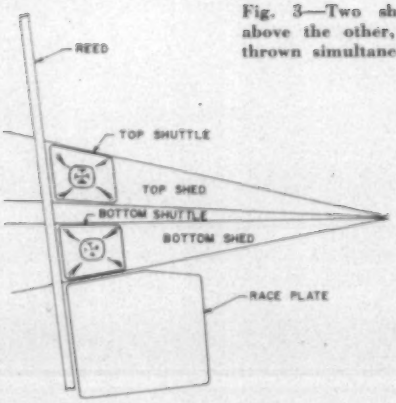


Fig. 3—Two sheds are formed, one above the other, and two shuttles are thrown simultaneously.

in Fig. 3. Generally, these two shuttles move in the same direction, but it is possible to operate on a pick-and-pick principle, with one shuttle going in the opposite direction to the other. Since two shuttles are thrown, two fabrics are made, one above the other, which are later cut apart by the knife motion.

Mechanically, it is possible to weave such fabrics double on a single-shuttle plush loom. The weaving cost is double under such conditions, which makes such a method uneconomical.

The cams shown are of the open type, with a roller following the contour of the cam. In this set-up, the cam will lower the harness but will not raise it. There must be another harness, connected to the first harness, on the roll-top principle, and this second harness must weave opposite to the first harness. If the weave does not call for two-harness weaving opposite, a dummy harness frame, with its levers and cams must be used. In order to overcome this drawback, a closed or enclosed cam may be employed. In such a cam, a track is made and the roller follows inside the track. This gives the ups and downs to each harness individually, without the aid of a second harness weaving opposite.

Fig. 2 shows the cams mounted on the side. It is possible to have cams mounted directly under the harness frames. Such cams are the open type only.

In order to get two sheds to receive the two shuttles, the eyes of the backing heddles are off-set about two inches from the center of the heddles. The eyes of the pile heddles are in the center of the heddles. When the harness are level, there are three sheets of yarn formed. The sheet of pile yarn is in the center, with the sheet of top backing yarn two inches about it, and the sheet of bottom backing yarn two inches below it.

This presents a problem in understanding the weave on design paper. A particular backing end weaves only in one fabric and does not cross into the other fabric. It is necessary to show top backing ends and bottom backing ends separate, and must be drawn in on separate harness. A top backing end is either up or down, only in relation to the top piece. When it is down, it is down in relation to the top piece, and not all the way down in the bottom piece.

The pile yarn, being warp, is drawn in on harness just like the backing yarn, but the pile yarn may have three positions: UP, DOWN or MIDDLE. One pile end serves both pieces. When it is UP, it is all the way up in the top piece, and when it is DOWN, it is all the way down in the bottom piece. The MIDDLE position is between the two pieces.

Although two picks are thrown, only one pick is painted in the weave. The proper ups and downs are shown for top backing, bottom backing, and pile. This means the proper shed is made for the top shuttle as well as the bottom shuttle and one pick is painted on the weave although two shuttles are thrown.

The cam shaft which holds and rotates the shedding cams is driven from the crankshaft on the loom. These cams must make one revolution for as many picks as there are in one repeat of the weave. Since different weaves will have a different number of picks in a repeat, the driving pinion must be changed to have the cams turn at the correct speed. The table below shows what these gears should be.

	Cam Repeat	Driver (Crankshaft)	Driven (Cam Shaft)
Open Cam			
	4 picks	36 T	144 T
	6 picks	24 T	144 T
	8 picks	18 T	144 T
Closed Cam			
	4 picks	30 T	120 T
	6 picks	20 T	120 T
	8 picks	15 T	120 T

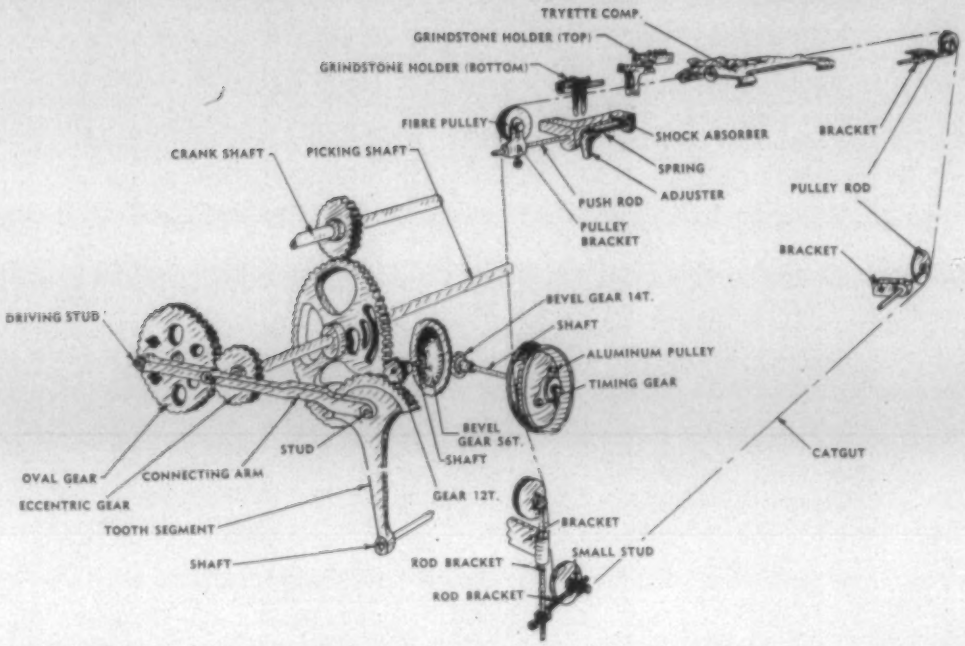


Fig. 4—The knife motion severs the two fabrics that are woven together.

The weave used for a cotton velour repeats on two picks. In this case, two repeats of the weave are on each cam, so the cam is treated as a four-pick repeat.

Many of these fabrics have a high sley, which would crowd the heddles on a given harness. Rather than go to two harness, a double-bar harness is used. This makes possible twice the heddles per inch on each harness frame.

Harness timing is done as on other looms. It is good to have the harness level, when the reed is about two inches from the fell of the cloth. On a high pick fabric, when there is a heavy beat-up, it may be necessary to have the harness level earlier. On animal fiber pile yarns it usually helps weaving conditions to close the pile shed before the backing shed.

When adjusting the height of the sheds, it is good practice to have the pile sheet, when it is in the top piece, slightly above the top shed of the top backing. Also the pile sheet, when it is in the bottom piece, should be slightly below the bottom shed of the bottom piece. This makes for a cleaner shed.

The Knife Motion

The cutting motion (see Fig. 4) is most important for it severs the two fabrics that are woven together. It must cut uniformly. The two pieces coming off the loom must have the same pile height from side to side. If one side is high, the entire piece must be sheared to the low height side, which means waste.

The knife is generally timed with the shuttle so that they both move at the same time. In some instances the knife will go in the opposite direction to the shuttles. On the side of the loom are two grindstones, one above and one below the knife. These stones will sharpen the knife each time it passes by the stones.

Cotton is one of the most difficult fibers to cut, and a knife must be sharp. If it is not, it will pull instead of cut, and a ragged face on the fabric will result. This choppy cutting may not always come out in subsequent shearing. When it doesn't the result is a second grade piece of cloth. A knife too dull for cotton might well do a satisfactory cutting job on a loom weaving mohair.

Since the cutting is so important, some mills have delegated the responsibility to a "knife man." Thus, three people are responsible for the quality of cloth coming off a loom—the weaver, the fixer and the knife man. This makes for a good team to maintain high quality.

The tolerances are very small in the greige inspection for the pile height of a fabric coming from the loom. This is many times set at .005". In fabrics such as frieze, which are not cut at the loom, the knife motion is just disconnected and is not used.

Take-Up Motion

The take-up motion (Fig. 5) controls the picks per inch in the fabric. It is important that the picks be correct, for under-pickage will cause the fabric to be returned by the customer. Over-pickage will mean the mill is losing money.

Pile fabrics are so thick that the conventional sandpaper

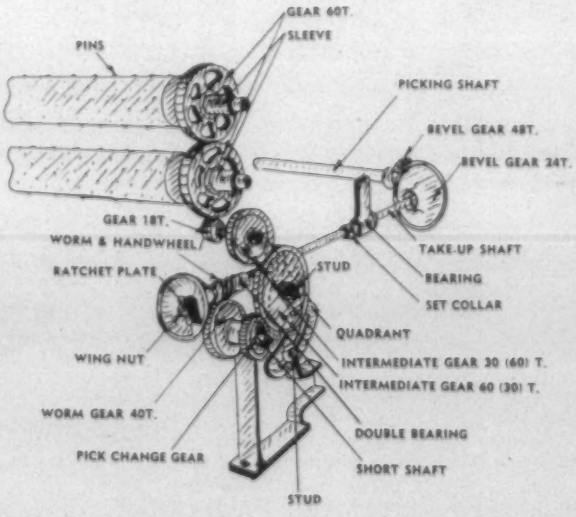


Fig. 5—The take-up motion controls the picks per inch in the fabric.

or emory cloth will not give sufficient traction to advance the fabric as it weaves. Steel pins have to be inserted into the take-up roll (which accounts for the name "pin roll" in the weave room) to get the proper traction. As two fabrics are made simultaneously, two pin rolls are needed, and both must turn at the same speed to insure that both top and bottom pieces have the same picks per inch. Fig. 6 illustrates the gear train of the take-up motion for a Tonnar loom. Fig. 7 illustrates the gear train for the take-up motion on a C&K or Guesken. Both of these gear trains are worked out to have a pick constant of one. This means that a 42-tooth pick change gear will put 42 picks per inch in the cloth.

Warp Let-Off Motion

The warp let-off motion (Fig. 8) is generally a worm let-off operated from the sword in the front of the loom. The tension on these warps is generally great, and weights on the lever are the control. These weights and the position on the lever must be adjusted from full beam to empty beam in order to maintain a uniform tension. If insufficient yarn is let off, the warp will run tight and the lever will be raised. For best quality it is advisable to insert an electric wire above the predetermined height of the lever. This electric wire will act as a stop motion in case the yarn runs tight and the lever is raised too high. When two beams are run in place of one, it is advisable to overlap the top one around the bottom one so that the tension on both will be as uniform as possible. (See the tight backing beams in Fig. 1.)

Double shuttle plush looms are large and can carry up

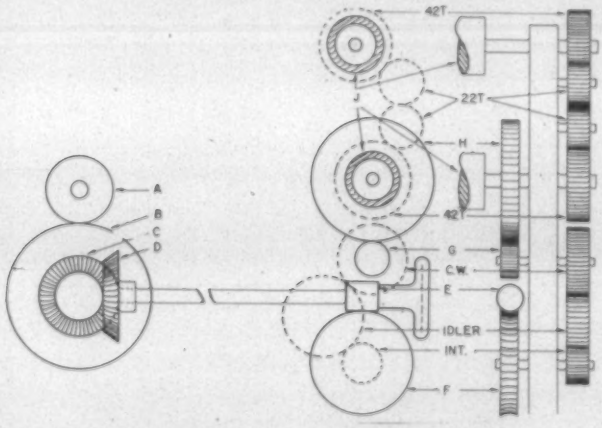


Fig. 6—The take-up motion gear train for tonnar looms.

A-25T; B-50T; C-28T; D-42T; E-Single Lead Worm; F-50T; G-16T; H-68T; J-Pin Roll, 14.75" circ. Idler-40T; C. W.-Change Wheel. Formula:

The figure in the bracket is the constant. Constant for the above bracket is .02314.

$$C.W. = picks \times \left\{ \frac{A}{B} \times \frac{C}{D} \times \frac{E}{F} \times \frac{G}{H} \times J \right\} \times Int.$$

$$C.W. = picks \times constant \times Int.$$

$$picks = \frac{C.W.}{constant \times Int.} \qquad Int. = \frac{C.W.}{constant \times picks}$$

If the Intermediate is fixed at 46T, and is included in the bracket, the constant is 1.0643. The .0643 allows for shrinkage of cloth between the heat-up and past the pin roll.

$$C.W. = picks \times constant$$

$$picks = \frac{C.W.}{constant}$$

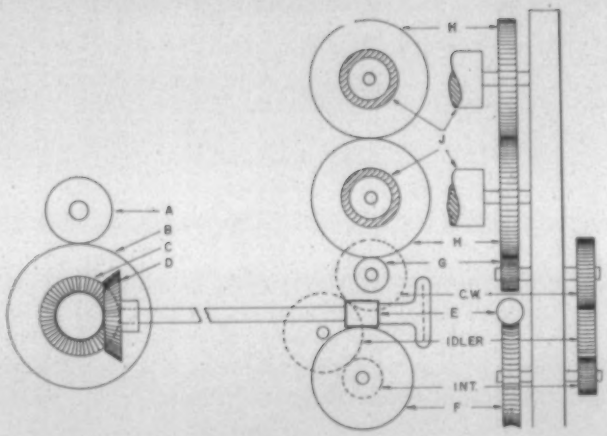


Fig. 7—The take-up motion gear train for C & K or Guesken looms.

A-32T; B-64T; C-24T; D-48T; E-Single Lead Worm; F-40T; G-18T; H-60T; J-12.75" circ.; Idler-40T; C.W.-Change Wheel. Formula:

$$C.W. = picks \times \left\{ \frac{A}{B} \times \frac{C}{D} \times \frac{E}{F} \times \frac{G}{H} \times J \right\} \times Int.$$

Figure in the bracket is the constant. Constant for the above is .023906.

$$C.W. = picks \times constant \times Int.$$

$$picks = \frac{C.W.}{constant \times Int.} \qquad Int. = \frac{C.W.}{constant \times picks}$$

If the intermediate is fixed at 43T, and is included in the bracket, the new constant is 1.027968. The .027968 allows for shrinkage of cloth between the heat-up and past the pin roll.

$$C.W. = picks \times constant$$

$$picks = \frac{C.W.}{constant}$$

to seven beams when different contractions demand it. The minimum is two, one for pile and one for ground. The two-beam arrangement is seldom used in production, however, because of the need of replacing beams so often. If half of the total ends are put on *each* of the two beams, the required number of ends will be used, but each beam will have twice the yardage. This means less frequent replacement. For this reason two pile and two backing are generally used to weave velour. In addition, half the ends from *each* backing beam go to *each* piece. This makes for better let-off as well as better control of tension.

The beams are large, up to 30-inch diameter flanges, and about 60 inches between flanges. They are capable of holding up to 500 pounds of yarn.

Pile Motion

One of the most important motions on a loom is the pile motion (Fig. 9). It can make good or poor quality cloth as well as determine the profit the mill will make. If too much is used, the cost will be too high; if too little is used, cloth will be returned.

The amount of yarn delivered through the pile motion is called delivery and is expressed in two ways; first, the amount of yarn necessary to weave one yard of cloth. Thus if a fabric has a delivery of 5, this means it takes five yards of yarn to make one yard of cloth. Second, the amount of cloth that will be made by one yard of yarn. A delivery of $\frac{1}{8}$ means that one yard of pile yarn will make $\frac{1}{8}$ yard of cloth. The writer believes the first method has many more advantages than the second.

With a delivery of 5, one yard of cloth is produced from

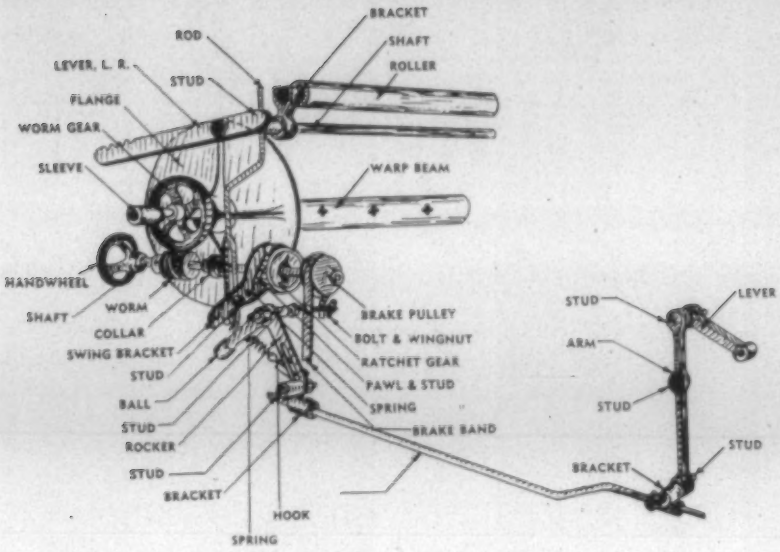


Fig. 8—The warp let-off motion is generally a worm let-off operated from the sword in the front of the loom.

five yards of yarn. This yard of cloth is at the beat-up and is expressed as a double or single yard. In the case of a velour, two pieces of cloth are produced, so it takes 2½ yards for each piece. If a frieze is woven single with a delivery of 5, it takes five yards of yarn to make one yard of cloth, not two-and-one-half yards of yarn.

In order to deliver the yarn uniformly, the pile roller should be covered with either sandpaper or emory cloth. The lower roller should be covered with felt or corduroy. These two rollers then will be pressed one against the other. If both rollers were covered with emory cloth or sandpaper, there would be a grinding action on the pile yarn. If both rollers were covered with felt or corduroy, there would not be sufficient traction.

Fig. 10 illustrates the gear train for the pile delivery motion on the C&K or Guesken looms. Fig. 11 illustrates the pile delivery motion for Tonnar looms.

Rocker bars are shown in the pile yarn in Fig. 1. The pile delivery roller is driven from the crankshaft, and turns continuously. However, the weave may not call for the same amount of pile yarn for each pick in the cloth. A spring is attached to each rocker bar, which pulls it to the back of the loom, If more yarn is delivered on any pick than is needed, the rocker bar will be pulled tight, keeping the proper tension on the pile yarn. The extra yarn is "stored" and available for use when the weave calls for more yarn. One rocker bar is necessary for each pile harness.

Picking And Lay Motion

In the mechanical operation of double-shuttle plush looms, two shuttles are thrown simultaneously (Fig. 12). That requires tremendous picking power, and for that reason the picking motion is quite different from the conventional pick cone arrangement.

A pick ball is mounted on the pick gear. As the picking shaft rotates, this ball will hit the picker nose causing the wooden arm to be forced downward. As this occurs, it will move the picker stick which in turn, through the pickers, will move the shuttles. From the sketch (Fig. 12) it can be seen that the pick shaft must rotate from top to back to bottom centers. If the picking shaft should turn in the opposite direction, the pick ball would wedge against the picker nose breaking the stick. This means the crankshaft must turn from top to front to bottom centers which is opposite to the conventional flat fabric

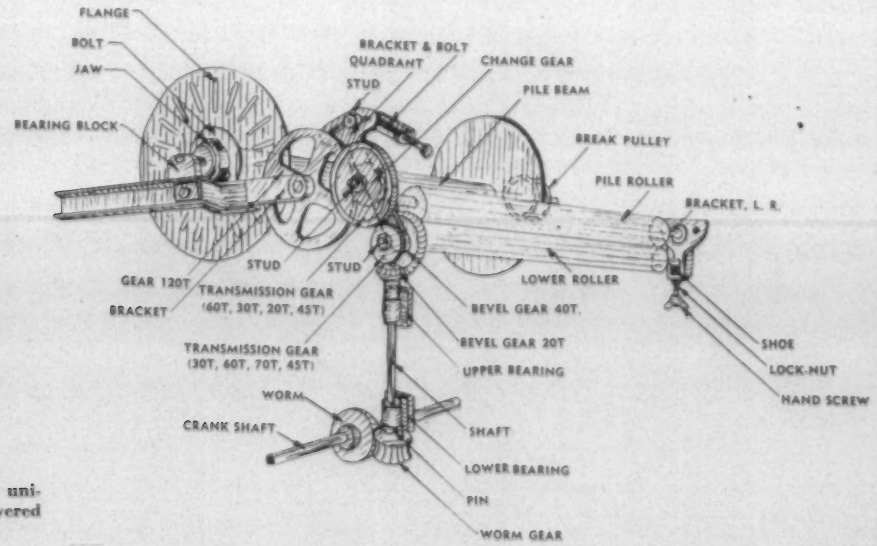


Fig. 9—In order to deliver the yarn uniformly the pile roller should be covered with sandpaper or emery cloth.

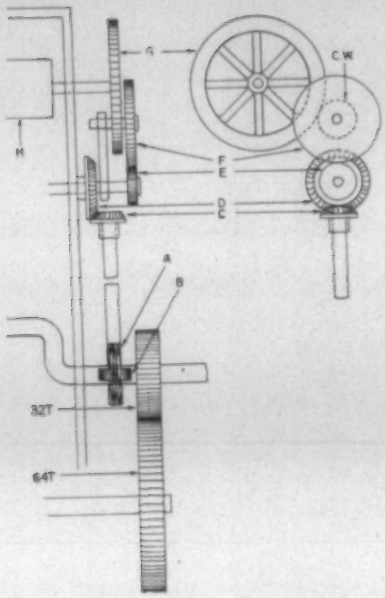


Fig. 10—The pile delivery motion for Guesken or C & K looms.

A-Double Lead Worm; B-30T; C-20T; D-40T; E-30T; F-60T; G-120T; H-14.8755″ circ.—4.735″ diameter; C.W.-Change Wheel.

Formula:

$$\text{Dely.} = \text{picks} \times \left\{ \frac{A}{B} \times \frac{C}{D} \times \frac{E}{F} \times \frac{1}{G} \times H \right\} \times \text{C.W.}$$

Figure in brackets is the constant. Constant for 60T/30B comb. is .002066. Constant for 30T/60B comb. is .008264. Constant for 45T/45B comb. is .004132.

$$\text{Dely.} = \text{picks} \times \text{constant} \times \text{C.W.}$$

$$\text{C.W.} = \frac{\text{Dely.}}{\text{picks} \times \text{constant}}$$

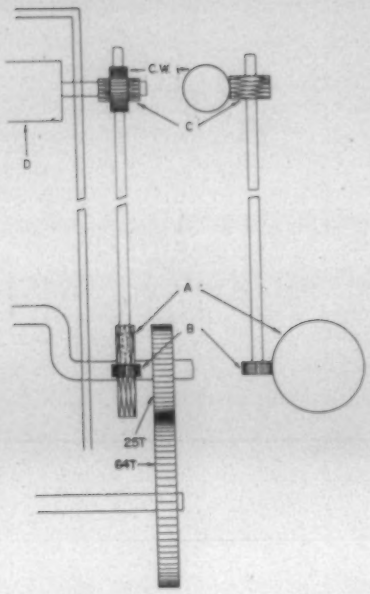


Fig. 11—The pile delivery motion for Tonnar looms.

A-Triple Lead Worm; B-12T; C-Single Lead Worm; D-14.8755″ circ.—4.735″ diameter; C.W.-Change Wheel.

Formula:

$$\text{Dely.} = \text{picks} \times \left\{ \frac{A}{B} \times \frac{C}{1} \times D \right\}$$

Figure in the bracket is the constant. Constant is 3.718875.

$$\text{Dely.} = \frac{\text{picks} \times \text{constant}}{\text{C.W.}}$$

$$\text{C.W.} = \frac{\text{picks} \times \text{constant}}{\text{Dely.}}$$

looms. Proper pick timing in the case of these double-shuttle plush looms has the picker start to move when the crank shaft is on bottom center. In this position the lay is moving backwards while the shuttle is in flight. A giveway is used in the picker nose so that the loom does not pick as the loom is turned backwards when matching the pick.

Knock-Off Motion

In the knock-off motion (Fig. 13) two filling forks are required, one on each side of the loom. Because there are two shuttles with two fillings, each filling fork must feel for its respective filling. The right-hand fork will feel for the bottom filling only while the left-hand fork will feel

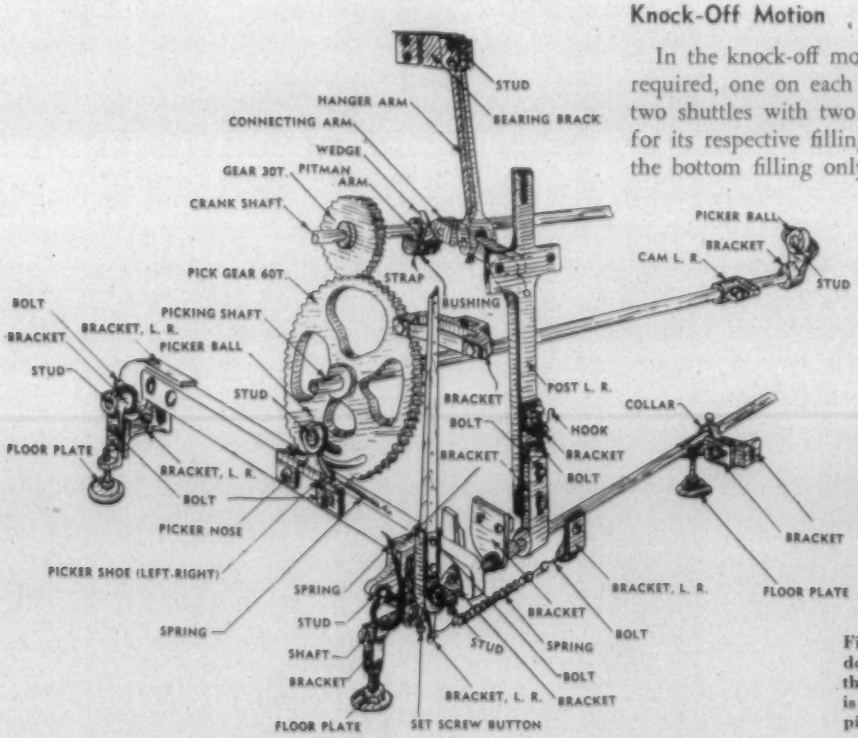


Fig. 12—In the mechanical operation of double-shuttle plush looms, two shuttles are thrown simultaneously. The picking motion is quite different from the conventional pick cone arrangement.

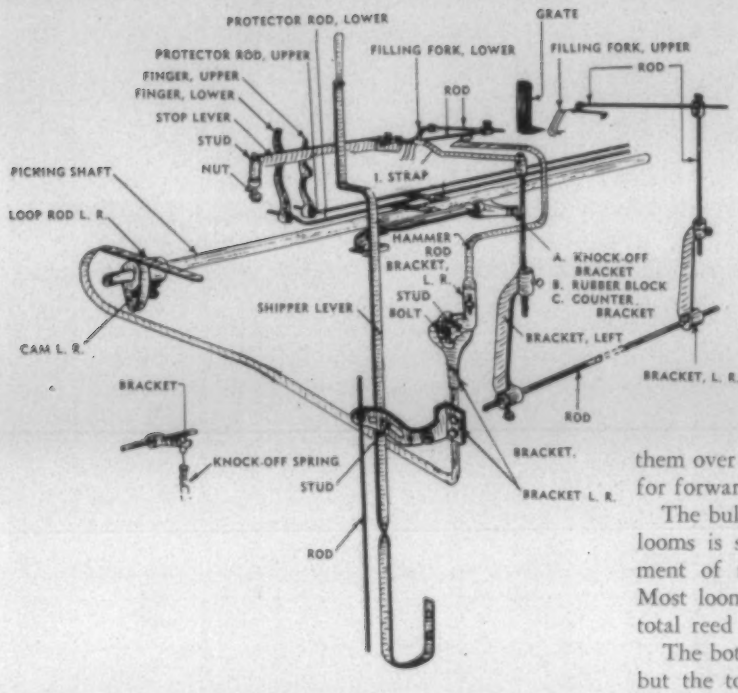


Fig. 13—In the knock-off motion two filling forks are required, one on each side of the loom. The right-hand fork will feel for the bottom filling only while the left-hand fork will feel for the top filling only.

for the top filling only. If both forks felt for both fillings, and one filling broke, the remaining filling would still raise the fork and the loom would not stop. With this arrangement on the loom either filling that breaks will cause the loom to stop. Also shown in Fig. 13 are the upper and lower dagger fingers. They are part of the protector motion and because there are two shuttles with two shuttle boexs, two daggers are necessary to break off the loom in case either shuttle is not boxed properly.

Since these looms are very heavy, it is difficult to turn them over by hand when matching the pick. A motor drive for forward and backward direction is provided.

The bulk of fabrics woven on these double-shuttle plush looms is sold in 54 to 56″ widths. This is the measurement of the pile width, and does not include selvage. Most looms will be about 68″ between swords, with 63″ total reed space.

The bottom shuttle has some support from the raceplate, but the top shuttle must ride on the bottom of the top shed. It is essential therefore that the distance from the selvage to the shuttle box be no greater than half the length of the shuttle. Otherwise the shuttle would never reach the top shed. If a narrower fabric is to be woven, a special box or tunnel is prepared on each side of the loom for the top shuttle, to bridge the gap from the shuttle box to the selvage.

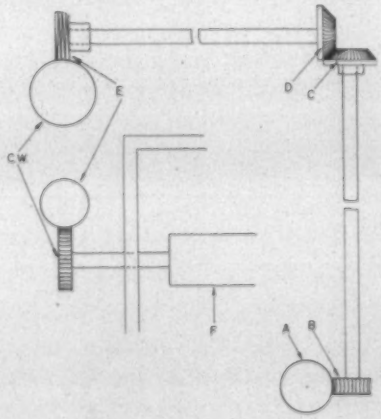


Fig. 14—The slack backing delivery motion for C & K, Guesken and Tonnar looms.

A-Double Lead Worm; B-30T; C-24T; D-24T; E-Double Lead Worm; F-14.8755″ circ.;—4.735″ diameter; C.W.-Change Wheel.

Formula:

$$\text{Dely.} = \text{picks} \times \left\{ \frac{A}{B} \times \frac{C}{D} \times \frac{E}{1} \times F \right\}$$

Figure in brackets is the constant. Constant for double lead worm on bottom and double lead worm on top is 1.9834.

$$\text{Dely.} = \frac{\text{picks} \times \text{constant}}{\text{C.W.}}$$

$$\text{C.W.} = \frac{\text{picks} \times \text{constant}}{\text{Dely.}}$$

Slack Backing Delivery Motion

In some warp pile fabrics it is necessary to have an extra system of warp yarn with a contraction different from all the other systems. It is important to control the amount of yarn delivered, both for cost purposes as well as quality of fabric. The slack backing in Fig. 1 goes through a separate delivery motion with its own change gear. This motion, with its calculation, is shown in Fig. 14.

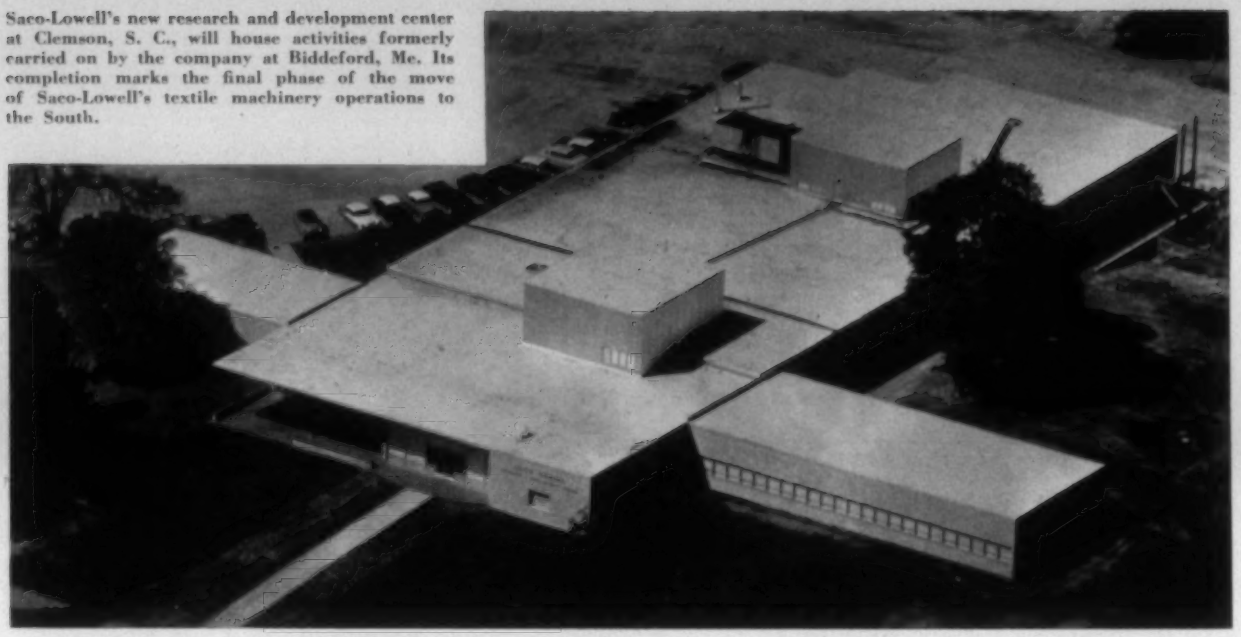
Efficiency

A warp stop motion is put on the top backing, bottom backing and pile systems of yarn. The bottom backing is hard to see and hard to reach where an end breaks there. This loom is large and many things can go wrong to stop it. It helps weaving efficiency if an annunciator box is placed on the front of the loom arch. When the loom stops, the weaver knows that if the No. 2 position is up, the filling broke, or if the No. 4 position is up the pile end is down.

Hand shuttling is done, which accounts for much of the weaver's time. On looms equipped with a jacquard head, and running heavy filling, only one loom per weaver with an efficiency of 75% is expected. On cam looms with medium size filling, two looms per weaver with an efficiency of 75% is expected. Some styles having few ends and fine filling can run at four looms per weaver with an efficiency of 68% expected.

The speed of these looms is low compared with single-shuttle flat fabric looms. A practical speed for double-shuttle plush looms is 108-112 picks per minute.

Saco-Lowell's new research and development center at Clemson, S. C., will house activities formerly carried on by the company at Biddeford, Me. Its completion marks the final phase of the move of Saco-Lowell's textile machinery operations to the South.



Saco-Lowell Shops Dedicates New Research, Development Center

SACO-LOWELL Shops dedicated its new research and development center in Clemson, S. C., November 7. Designed specifically for the research and development of textile machinery, the single-story building contains 40,000 square feet of floor area. It is located on a 30-acre plot in Clemson College's new Ravenel Research Area. With air-conditioning and controlled humidity throughout, the new building provides special prototype rooms, model shops and a variety of laboratories.

Hollings, Ault, Byrnes, Edwards

Dignitaries at the dedication ceremonies included the two men who started Saco-Lowell's move South—former South Carolina Governor James F. Byrnes and former Saco-Lowell President David F. Edwards—along with the two men who completed it—Gov. Ernest J. Hollings and Thomas J. Ault.

At the dedication ceremonies, featured speakers were Thomas J. Ault, president, Saco-Lowell Shops; Ernest F. Hollings, Governor of South Carolina; W. J. B. Dorn, member of South Carolina's Congressional delegation; and Robert M. Jones, vice-president and director of research, Saco-Lowell. Also present at the completion of the move of the company's textile machinery division to the South were the men who started it several years ago—David F. Edwards, former president of Saco-Lowell; and the Hon. James F. Byrnes, former Governor of South Carolina, Congressman, Senator, Secretary of State, and Supreme Court Justice.

The Move South

Explaining the company's move South, Ault said, "It had been obvious for years that South Carolina had become the very heart of the textile industry. In order to serve the textile industry better, we felt we must be geographically close to the mills so that we could be ever sensitive to their needs and provide them with the things they both need and want. We found this was hard to do when we were located 1,000 miles away from most of them."

The company established a manufacturing plant at Easley, S. C., two years ago. The plant has since been expanded. Of the expansion Ault pointed out, "The month immediately preceeding my joining Saco-Lowell as president in July 1958, our South Carolina operations were spending only $220,000 per month and part of this was being paid out of Boston. In September of this year our expenditure amounted to $1,616,000, making a rate of $19,392,000 per year.

Commenting on his company's new research and development facilities, Thomas J. Ault said he expected the center to develop textile machinery that will make obsolete every piece of textile machinery as it is now known. He pointed out that Saco-Lowell operations in South Carolina have grown from 375 employees in June 1958 to 1,865 in October 1959.

"Our South Carolina payrolls alone increased from $93,000 a month in June 1958 to $756,000 in September 1959. Our current South Carolina payroll alone now is at the rate of $9 million per year. Our employment in the state has risen from 375 people on June 15, 1958, to 1,865 people on October 11, 1959, or practically five-fold. Most of these people have been recruited from the Greenville, Easley, Clemson area, although we did bring a core of experienced executives, supervisors, engineers and technicians from the North."

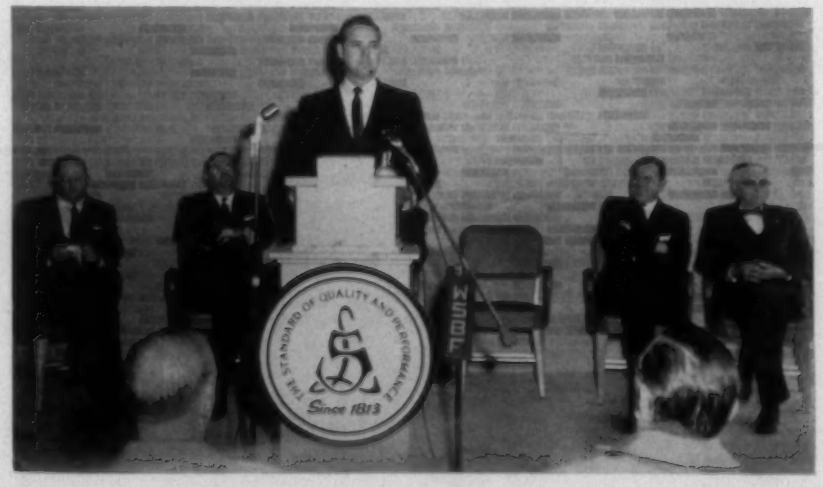
Ault told the group that Saco-Lowell's rapid rate of growth has created some problems. One of these problems stemmed from the fact that few of the workers in South Carolina have any sort of industrial background. He said before they can produce effectively, they must become accustomed to an entirely different work environment and to the use of a variety of tools which are entirely strange to them. They do make good workers, Ault said, but it does take time.

As a solution to this problem Ault called on the State of South Carolina to incorporate industrial training classes in its public school system. He said the students should become familiar with blueprint reading and the operations of basic machine tools and hand tools. He said this education would be a means of assuring the continued growth of industrialization in South Carolina.

New Frontiers

Regarding the activities at the new Saco-Lowell installation, Ault said, "We expect to be blazing new frontiers in the improvement of the textile arts. I have told Bob Jones, in charge of the activities here, that I expect him to develop the textile machinery which will make every piece of textile machinery that we, or our competitors here and abroad, have ever made, obsolete." He concluded that the closer the researchers come to this objective, the more Saco-Lowell will enable the textile industry of America to compete despite the current obstacles that exist in world competition.

Dedication of the new research and development facility marks the final phase in Saco-Lowell's shifting of its textile machinery division to the South. It has been a move the company has long studied over, and a shift other textile machinery manufacturers now in New England have watched with keen interest. Up until Ault took over the presidency of Saco-Lowell in July of last year, it was generally held that the transfer of operations would take place gradually, and that a complete shift would take years. With the company losing money, Ault chose to accelerate the plan. In effect he threw the time schedule out the window. In but four months time, Saco-Lowell came South. Still meeting Ault's revved up timetable, the company has edged back into the black and is looking for greater days ahead.



Governor Ernest J. Hollings extended South Carolina's official welcome to Saco-Lowell's new research facility. Seated behind the governor are *(left to right)* Congressman William Jennings Bryan Dorn (S. C., Third District); Dr. R. C. Edwards, president of Clemson College; Thomas J. Ault, Saco-Lowell president; and R. M. Jones, vice-president and director of research for Saco-Lowell.

Better Gears

an unused key to quality control

By L. H. MORRISON*
President
Medley Machine Co., Columbus, Ga.

INFORMATION in this article can solve the problem of yarn damage attributable to imperfect gears. The problem of excessive gear replacement and loss of production causing high and unnecessary cost, will be just as easily solved. The difficult task lies in keeping this hydra-headed monster down. Nothing but a continuous program of inspection and education in maintenance practices will keep the problem whipped.

Consider the question of yarn patterns attributable to gear run-out. In attempting to provide the textile industry with better means to beat this problem our company has fixed its tolerances on gear production to a maximum run-out on the pitch line of 0.0035-inch total indicator reading.

We chose this particular figure for three specific reasons. No. 1—using the formula, 1.375 divided by the draft employed equals a tolerance at which gear run-out will not show yarn patterns, the answer for a draft of 40 is 0.0035-inch. I have been asked if this figure of 1.375 is based on the total error in the draft chain. It is not. Each gear in the chain must be considered separately. In other words, a chain of gears is no better than the worst gear in the chain.

Now, if the formula is correct in so far as yarn patterns are concerned, a gear of no more run-out than 0.0035-inch would take care of all drafts up to 40. This draft limit would include most of the mills in the country.

Secondly, all drafting gears in all makes of spinning range in pitch from 18 through 24. Gears are engineered to provide an exact amount of clearance or backlash on the pitch line and also between the tooth of one gear and the root of the mating gear. The proper backlash on the pitch line of an 18-pitch gear is 0.004-inch. Root clearance amounts to 0.0088-inch when properly set. Therefore, it can be seen that even if each of the gears being mated had the maximum run-out of 0.0035-inch the total error would be 0.007-inch. When the extreme high point of each gear met the other's high point, the amount of error would still not be sufficient to set up interference (or turbulence) within the allowable tolerances.

Wider Setting—No Help

Even though a proper setting of 0.004-inch of backlash cures the errors we have been discussing, a wider setting would by no means be a cure-all for excessive run-out. In fact, meshing the gears with extreme separation would do more harm than good. This is true since the excessive backlash would play havoc with sliver quality as well as create an opportunity for accelerated wear.

Thirdly, the figure of 0.0035-inch is our standard in that any good shop should be able to hold these tolerances as a matter of normal procedure. It should not be necessary to increase the price of gears as a result of holding gear production to this tolerance. Possibly you already have equipment that will immediately spotlight a bad gear. What assurance have you that when you stop a frame to replace a bad gear that you will not be replacing it with another bad gear? Beside nullifying the efforts of your technician and fixer, this happening results in the frame being stopped until, by accident, a gear that is true enough to eliminate the defect is selected.

According to our experiences in working with over 100 mills, your chances of picking a good gear out of the stock room are only 60/40.

Must Have Gear Checker

To rid your mill of patterns due to gears you must have gear checking equipment. Check all gears in the stock room and discard all which run-out above the limit indicated by the highest draft in your mill. If, for instance, that draft is 30, you would discard all gears in the stock room which run-out above 0.0045-inch on the pitch line.

Check the gears running on the frames and then insist that no gear is ever installed that has not been checked. Finally, when ordering gears from outside sources have the purchase order read, "These gears must not run-out above 0.0035-inch T.I.R. on the pitch line. Bore size must be accurate within plus 0.0005 and minus 0-inch."

At the time gears on the frame are checked be sure that all gear studs are just as carefully checked. Throw out the worn, undersized or ill-formed studs and replace only with studs that have passed inspection. A poorly made stud gives the same effect as excessive gear run-out and also causes undue wear on the gear. You should insist on hardened and ground studs. During this inspection, check the gear mounting brackets. Sometimes there is enough wear in the face of the gear mounting bracket to misalign the stud. If this seems a large order, remember that imperfect gears in the draft chain effect a plurality of deliveries and/or spindles.

Gear Wear

The second phase of the problem, excessive gear wear and the resultant high price paid for it, must become part

*From a paper presented at the Fall meeting of the Textile Quality Control Association. The meeting was held October 1-2 at The Grove Park Inn, Asheville, N. C.

of a regular program of inspection and maintenance if it is to yield the proper dividends. *Gear run-out means gear wear.* The more the run-out, the faster the wear.

I have suggested maximum run-out of 0.0035-inch for a draft of 40 in so far as patterns are concerned. However, at a draft of 12 it is just as essential to use the closely made gear but for an entirely different reason. The better-made gear will wear longer. Earlier I pointed out the fact that it should cost no more to manufacture a good gear than a poorly-made gear. Therefore, gears with a run-out not exceeding 0.0035-inch should be used regardless of the draft employed. Set the gears properly on accurate studs held by gear mounting brackets that are free from wear or other defects.

Material Selection

When we have reached this point there is one other essential consideration to be given gear life. This consideration is the proper selection of the material for the load the gear must bear.

There are many areas in the mill that require no special attention in this respect and a well-made gear of standard grey iron casting will give years of trouble-free service when good maintenance practices are followed. However, due to frame construction where floor space is the major consideration, we are faced with the necessity of using small diameter, fine pitch gears to carry a load that is close to the maximum beam load capacity of such gears. High draft spinning, in my opinion, actually overtaxes the beam load capacity of conventional spinning gears and the solution is to produce these gears from better, stronger materials than have been used in the past.

Increase Pressure Angle

To add another 20% to the strength of the teeth, whenever practical, change the pressure angle of the gear tooth from the conventional 14½ degrees to 20 degrees. A preponderance of 14½ degree pressure angle gears may make this change impractical except at a time when a change-over of the entire drafting element is being made. Consideration should be given to 20 degree pressure angle gears when selecting new spinning.

A case in point is the friction gear on the loom. The extremely high shock load received by this gear coupled with improper settings can cause an excessive, unnecessary and very expensive mortality rate. The initial cost of the gear is minor when compared to the fact that it takes three hours of labor cost to replace it. Still worse is the fact that the loom is frequently out of production a full shift when one of these gears fail. Gear material selected for high tensile strength plus ductility to withstand shock must be used in this application. Also, better and more complete instruction should be given to the people responsible for setting friction gears. Incidentally, far greater strength can also be built into this gear by changing the pressure angle from 14½ degrees to 20 degrees. Of course, the motor pinion pressure angle must be changed as well.

Gear-caused patterns and problems can be eliminated and a tremendous amount of money can be saved by: (1) better-made gears from selected materials; (2) gears mounted on accurate hardened and ground studs; (3) gears located at right angles to the gear mounting bracket; and (4) observance of good maintenance practices.

CO$T FACTOR$ | to consider in new equipment purchases

By G. I. KIMBALL, Terrell Machine Co., Charlotte, N. C.

IT is already generally recognized that present methods of making capital investments are inadequate in many cases. Improvements are continually being made as new methods prove themselves. Certain minimum factors *must* be considered in order to determine what is a good machinery investment. These are:

(1) Direct labor
(2) Indirect labor
(3) Repairs and maintenance
(4) Fringe benefits
(5) Depreciation
(6) Interest
(7) Income taxes
(8) Cash produced

As you review this list you may find several factors which you may not have previously considered in recommending purchases of equipment. Let's examine each factor to see why it should be considered.

Factors Usually Used

Direct labor is the most obvious factor and the one which in many cases determines which machinery is purchased. But what direct labor should be considered? When examining a machine that can be operated by one less man and does exactly the same operation as before, you can easily figure the direct labor saving. However, this is not usually the case. Most of the time you are changing a part or an entire process. Then direct labor is saved in some parts of the process and is transferred to other parts. If you are responsible for only one part of the process, your recommendation will be based on whether or not the change results in savings in your department. However, a different conclusion might be reached if you reviewed the entire process.

Changes in indirect labor and supplies are even more common occurrences. Each year U. S. business is increasing its investment per productive employee. If only direct labor savings are considered, then when we eliminate one direct labor employee but add two indirect employees, it appears that we have cut direct labor cost. At the same time the cost per pound of production has gone up. So looking at only one factor puts us on the wrong track.

Many times new machinery will show a reduction in the indirect labor and supplies in one part of the process but will increase the cost of these items in other parts of the process. The whole process must be considered to give the correct results.

Other factors to be considered are repairs and maintenance. These factors are difficult to measure but can make a big difference. Several factors must be considered here. First is the cost of repair parts and the mechanic's time and the second is the factor of lost production. A very complicated machine when operating properly can result in large savings. The same machine, because of its complications and many operations, can be put out of commission by some small item getting out of adjustment—cutting off the production of a whole process. If this happens repeatedly, the expense of repairs and the cost of lost production more than offset the savings.

A process or machinery which can be repaired on a unit basis without affecting the entire process will usually pay more bonuses to employees and dividends to stockholders than a complicated machine which either works completely or not at all.

The author outlines the basic factors which must be considered in determining a good machinery investment as given in the Machinery & Allied Products Institute method of utilizing capital funds. This paper was presented at the meeting of the Northern North Carolina-Virginia Division of the Southern Textile Association, October 17.

Factors Seldom Used

The factors covered so far are used by most of us to some degree in determining the advisability of a particular capital investment. The remaining factors are used much less, if at all. Perhaps the two reasons for leaving them out most of the time are that they are not understood and are less readily available. Nevertheless, they are important items—so let's take a look at them.

When I speak of fringe benefits, I include them not as a separate factor but an addition to both direct and indirect labor. Fringe benefits must be considered in making

any evaluation which includes labor. All companies have them. Some are compulsory by virtue of government regulations. Every company has an additional labor factor for fringe benefits of at least 7%. Most of us have fringe costs of 10% to 15%. In fact there are some companies that have fringe benefits costing as high as 30% of direct labor.

Some textile mills do not consider this area of cost. However, since some are set by law, they are a part of cost and to get a true evaluation they must be included.

Depreciation is a factor that is spoken of often but not clearly understood by all. This is a term which we accountants use most often, and yet a word which conveys

Example 1

Total Investment: $932,500

Annual Savings from Investment:
- Direct Labor 4,950
- Indirect Labor 90,050

Total Savings $95,000

Depreciation:
- Period—15 Years
- Method—Double Declining Balance

Interest Rate 6%

Year	Annual Savings	Depreciation	Interest	Savings or Loss Before Taxes	Income Taxes	Net Savings or Loss	Cash Produced
1	$ 95,000	$124,330	$ 55,950	—$85,280	0	—$ 85,280	$ 39,050
2	95,000	107,753	53,607	— 66,360	0	— 66,360	41,393
3	95,000	93,387	51,123	— 49,510	0	— 49,510	43,877
4	95,000	80,935	48,491	— 34,426	0	— 34,426	46,509
5	95,000	70,144	45,700	— 20,844	0	— 20,844	49,300
6	95,000	60,792	42,742	— 8,534	0	— 8,534	52,258
7	95,000	52,687	39,607	2,706	0	2,706	55,393
8	95,000	45,662	36,283	13,055	0	13,055	58,717
9	95,000	42,404	32,760	19,836	0	19,836	62,240
10	95,000	42,401	29,026	23,573	0	23,573	65,974
11	95,000	42,401	25,067	27,532	$11,950	15,582	57,983
12	95,000	42,401	21,588	31,011	17,056	13,955	56,356
13	95,000	42,401	18,207	34,392	18,916	15,476	57,877
14	95,000	42,401	14,734	37,865	20,826	17,039	59,440
15	95,000	42,401	11,168	41,431	22,787	18,644	61,045
	1,425,000	932,500	526,053	— 33,553	91,535	— 125,088	807,412

Original Investment $932,500

Loss in Invested Capital ..... —$125,088

Example 2

Total Investment: $537,500

Annual Savings from Investment:
- Direct Labor ..... —$ 9,750
- Indirect Labor 101,250

$ 91,500

Depreciation:
- Period—15 Years
- Method—Double Declining Balance

Interest 6%

Year	Annual Savings	Depreciation	Interest	Savings or Loss Before Taxes	Income Taxes	Net Savings or Loss	Cash Produced
1	$ 91,500	$ 71,665	$ 32,250	—$ 12,415	0	—$ 12,415	$ 59,250
2	91,500	62,110	28,695	695	0	695	62,805
3	91,500	53,829	24,927	12,744	$ 563	12,181	66,010
4	91,500	46,652	20,966	23,882	13,135	10,747	57,399
5	91,500	40,432	17,522	33,546	18,450	15,096	55,528
6	91,500	35,041	14,190	42,269	23,248	19,021	54,062
7	91,500	30,361	10,947	50,192	27,606	22,586	52,947
8	91,500	26,313	7,770	57,417	31,579	25,838	52,151
9	91,500	24,445	4,641	62,414	34,328	28,086	52,531
10	91,500	24,442	1,489	65,569	36,062	29,507	53,949
11	91,500	24,442	0	67,058	36,882	30,176	54,618
12	91,500	24,442	0	67,058	36,882	30,176	54,618
13	91,500	24,442	0	67,058	36,882	30,176	54,618
14	91,500	24,442	0	67,058	36,882	30,176	54,618
15	91,500	24,442	0	67,058	36,882	30,176	54,618
	1,372,500	537,500	163,397	671,603	369,381	302,222	839,722

Original Investment $537,500

Excess Capital Produced $302,222

many different ideas when used for production, for taxes, for financial reports, etc. Basically, it means the portion of a machine which is "used up" in the process of manufacturing. When you look at a machine you may not be able to see any change in it, but depletion has taken place, nevertheless. If you had a sand pit and 100 tons of sand was taken out, you would readily see the depletion. In an estimated period of years, you know that all the sand will

Example 3

Total Investment:	$932,500
Annual Savings from Investment:	
Direct Labor Savings	$ 4,950
Indirect Labor Savings	90,050
Fringe Benefits	9,500
Total Savings	$104,500
Less Repairs and Maintenance	16,600
Net Savings	$ 87,900

Depreciation:
Period—15 Years
Method—Double Declining Balance
Interest 6%

Year	Annual Savings	Depreciation	Interest	Savings or Loss Before Taxes	Income Taxes	Net Savings or Loss	Cash Produced
1	$ 87,900	$124,330	$ 55,950	—$ 92,380	0	—$ 92,380	$ 31,950
2	87,900	107,753	54,033	— 73,886	0	— 73,886	33,867
3	87,900	93,387	52,001	— 57,488	0	— 57,488	35,899
4	87,900	80,935	49,847	— 42,882	0	— 42,882	38,053
5	87,900	70,144	47,564	— 29,808	0	— 29,808	40,336
6	87,900	60,792	45,144	— 18,036	0	— 18,036	42,756
7	87,900	52,687	42,578	— 7,365	0	— 7,365	45,322
8	87,000	45,662	39,859	2,379	0	2,379	48,041
9	87,900	42,404	36,977	8,519	0	8,519	50,923
10	87,900	42,401	33,921	11,578	0	11,578	53,979
11	87,900	42,401	30,682	14,817	0	14,817	57,218
12	87,900	42,401	27,249	18,250	$ 5,987	12,263	54,664
13	87,900	42,401	23,970	21,529	11,841	9,688	52,089
14	87,900	42,401	20,844	24,655	13,560	11,095	53,496
15	87,900	42,401	17,634	27,865	15,326	12,539	54,940
	1,318,500	932,500	578,253	—192,253	46,714	—238,967	693,533

Original Investment	$932,500
Loss in Invested Capital	—$238,967

Example 4

Total Investment	$537,500
Annual Savings from Investment:	
Direct Labor Savings	—$ 9,750
Indirect Labor Savings	100,250
Fringe Benefits	9,150
	99,650

Depreciation:
Period—15 Years
Method—Double Declining Balance
Interest 6%

Year	Annual Savings	Depreciation	Interest	Savings or Loss Before Taxes	Income Taxes	Net Savings or Loss	Cash Produced
1	$ 99,650	$ 71,665	$ 32,250	—$ 4,265	0	—$ 4,265	$ 67,400
2	99,650	62,110	28,206	9,334	$ 2,788	6,546	68,656
3	99,650	53,829	24,087	21,734	11,954	9,780	63,609
4	99,650	46,652	20,270	32,728	18,000	14,728	61,380
5	99,650	40,432	16,587	42,631	23,447	19,184	59,616
6	99,650	35,041	13,010	51,599	28,379	23,220	57,261
7	99,650	30,361	9,515	59,774	32,876	26,898	57,259
8	99,650	26,313	6,079	67,258	36,992	30,266	56,579
9	99,650	24,445	2,684	72,521	39,887	32,634	57,079
10	99,650	24,442	0	75,208	41,364	33,844	58,286
11	99,650	24,442	0	75,208	41,364	33,844	58,286
12	99,650	24,442	0	75,208	41,364	33,844	58,286
13	99,650	24,442	0	75,208	41,364	33,844	58,286
14	99,650	24,442	0	75,208	41,364	33,844	58,286
15	99,650	24,442	0	75,208	41,364	33,844	58,286
	1,494,750	537,500	152,688	804,562	442,507	362,055	899,555

Original Investment	$537,500
Excess Capital Produced	$362,055

FINISHES CAN NOW BE APPLIED AT LOWER COST THROUGH "UNIFOG" SPRAY PROCESS

A new process developed by the Dyes and Chemicals Division now makes it possible to spray finishing agents on lightweight and heavyweight flat woven goods, toweling, knit goods and a variety of other fabrics.

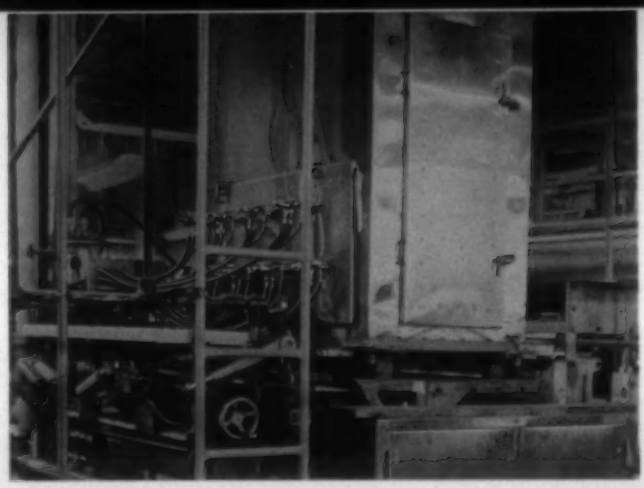
Called the "Unifog" spray process, it has already been used by several mills to apply finishing agents. The spraying operation has proved successful with aqueous solutions, dispersions, emulsions and molten solids. Development work for applying dyes by "Unifog" is under way.

Compared to conventional padding and drying methods, the "Unifog" process has two production advantages of special importance. Goods pick up only a fraction of the liquor that they do in padders. As a result, intermediate drying steps can often be eliminated, and other drying operations can be accomplished twice as fast. The finish can be applied more uniformly to wet fabrics than by padding.

How the process works

The basic idea of the "Unifog" process is simple. The finishing mix is piped from a supply tank to "misters," using air or preferably steam as the atomizing medium. Goods pass in front of, or between, the "misters" where they are sprayed on one or both sides. It makes little difference whether the fabrics are dry, partially dry or wet when they enter the range. They can then be dried in a hot air dryer, or in radiant-heat dryers at several times the normal speed.

Costs of installing, maintaining and operating the spray equipment are low. For example, the small and lightweight



This compact, lightweight unit is being used by one mill to spray finishes by the "Unifog" process. The "misters" can be seen at lower left.

spraying apparatus can be installed in present equipment space, or even supported by overhead beams. Maintenance is negligible because the "misters" can be cleaned simply by running water or steam through them. Operating costs are reduced through fuller use of supply tank mix and lowered heat consumption.

New finishing possibilities

With this new spray process, it is now possible to finish one side only or to apply one finish on one side, a different finish on the other side. It also appears likely that solvent systems and aqueous liquors could be used in tandem applications. Whatever your interest, you can now adopt the "Unifog" process without paying licensing or royalty fees. Get in touch with the nearest Du Pont district office for more details.

news from Du Pont

NEW! "LATYL"* BROWN MS DYE

"Latyl" Brown MS is a new, economical "Latyl" dye for "Dacron"* polyester fiber, characterized by its rich, "terra cotta" shade and good fastness to sublimation, light and wet processing. Because of its redness of shade, it is of exceptional interest as a replacement for orange dyes in the formulation of tans through dark browns. "Latyl" Brown MS has also been used to reduce the amount of red in combinations and is attractive for use in the production of navies and blacks.

"Latyl" Brown MS has excellent buildup and good stability when applied from aqueous carrier baths or from pressure systems without a carrier. When ortho phenylphenol-type carriers are used in the application of this dye, the dyeings should be heat treated so that optimum lightfastness is obtained. "Latyl" Brown MS stains wool to about the same degree as other dyes in the range.

"Latyl" Brown MS is of interest for printing "Dacron" type 62. It exhibits poor affinity for acetate and nylon, although it does have 40 to 80 hours' lightfastness on acetate in pale shades.

*Reg. U. S. Pat. Off.

FASTNESS PROPERTIES ON SPUN "DACRON"

	"Dacron" 54 Dowicide A Rating or Shade Change	"Dacron" 64 Dowicide A Rating or Shade Change
Light (Fade-Ometer)		
0.5%	5 to 10 hrs.	5 hrs.
2.0%	5 to 10 hrs.	5 hrs.
0.5% Heat Treated 1 min. @380	40 to 80 hrs.	20 to 40 hrs.
2.0% Heat Treated 1 min. @380	40 to 80 hrs.	20 to 40 hrs.
Washing (A. A. T. C. C. #3)	Negligible or no change	
Washing (A. A. T. C. C. #3A)	Negligible or slight change	

Dyeing of "Latyl" Brown MS on fabric of 100% "Dacron" fiber.

NOW THERE'S A SCARLET VAT DYE WITH IMPROVED FASTNESS TO LIGHT, WASHING, PEROXIDE AND CHLORINE

"Ponsol"* Brilliant Scarlet RK Double Paste, a new anthraquinone vat dye, should now improve the fastness of bright pinks and scarlet shades in cotton and rayon fibers. Lightfastness is excellent, testing out to 160 hours on Fade-Ometer exposure. In addition, this "Ponsol" exhibits good fastness to chlorine and peroxide bleach, as well as excellent wetfastness when dyeings are properly soaped.

Tests indicate that the new dye will give best results in package dyeing mercerized cotton yarns and rayon yarns. Stability is good over a fairly wide temperature range, but affinity is poorer at high temperatures. The dye does not seem suited for continuous methods inasmuch as it approaches its true shade only after 5 minutes' soaping.

Complete information about the possibilities and applications of this new "Ponsol" vat dye is available from Du Pont dyeing specialists at a nearby district office.

Approximate shade of bleached mercerized cotton, package dyed with 10.0% "Ponsol" Brilliant Scarlet RK Double Paste.

FASTNESS PROPERTIES ON COTTON YARN

Light (Fade-Ometer)	Rating or Shade Change
5.0%	320 hours
10.0%	320 hours
20.0%	320 hours
Chlorine (0.3% available)	Negligible to slight
Peroxide Bleaching	Negligible to slight
Washing (A. A. T. C. C. #3)	Negligible
Washing (A. A. T. C. C. #4)	Negligible to slight

news from Du Pont

"SEVRON"* BROWN YL: A HOMOGENEOUS CATIONIC DYE FOR "ORLON"* AND OTHER ACRYLIC FIBERS

"Sevron" Brown YL adds to the rainbow of fast colors that can be efficiently applied to fabrics of 100% "Orlon" or other acrylic fibers. With this dye, it is possible to produce browns that range from light cinnamon to full chocolate shades.

Like other "Sevron" dyes, this new brown has very good fastness properties. It offers outstanding lightfastness as well as very good fastness to washing, perspiration and wet processing conditions.

Has desirable application properties

An important advantage of "Sevron" Brown YL is that it can be dyed levelly. It has good solubility, good buildup, and produces stable shades over a wide pH range. It has a half-dyeing time of 25 minutes, making it compatible with other fast-to-light "Sevron" dyes in the production of compound shades. "Sevron" Brown YL can also be used in printing fabrics of "Orlon" or blends of "Orlon" and wool.

Approximate self-shade of "Sevron" Brown YL when applied at 2.0% on fabrics of 100% acrylic fiber.

FASTNESS PROPERTIES

Light (Fade-Ometer)	Rating or Shade Change
0.5%	60 hours
2.0%	80-160 hours
Perspiration (acid)	Negligible to slight
Perspiration (alkaline)	Negligible to slight
Washing (A. A. T. C. C. #3)	Negligible
Washing (A. A. T. C. C. #3A)	Negligible to slight

DU PONT
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DYES AND CHEMICALS

Better Things for Better Living
. . . through Chemistry

E. I. du Pont de Nemours & Co. (Inc.)
Organic Chemicals Department
Dyes and Chemicals Division
Wilmington 98, Delaware

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*Reg. U. S. Pat. Off.

be gone. Your estimate may be off a few years. You may find that the sand is deeper than you expected in one or two spots, or you may find that the sand is depleted in a year or two less than expected. You realize, however, that each ton of sand reduces the value of your original investment. Even though you pay no money for the sand during the year in which it is sold, you know that there is a cost which is equal to your decrease in investment. In this same way, a machine is used up.

Also included as a part of depreciation, is obsolescence. Even though the machine in itself is adequate, it may still have to be replaced. The change from steam to diesel powered locomotives is an illustration. Many of the steam engines are in good operative condition but because diesel power is so much cheaper, the railroad companies have junked them. They cannot afford to continue to use high cost equipment even if it is good. With continuing improvements in all types of products, this cost must be evaluated.

When we speak of depreciation, this is what we mean. Since large amounts of capital are involved you must consider the cost of machinery used up. Depreciation is a portion of the original investment and the amount of that investment determines the cost per year to be considered.

Another factor which is applicable to investment is interest. Money is a commodity and it has a cost. When money is available, you have a choice of markets in which to put it. You can invest in bonds and earn interest; you can invest in stocks and earn dividends; or you can invest in machinery and earn profits. The use of money has a cost, so you must consider this in evaluating an installation. Since each investment must stand on its own merits, the cost of the capital must be included. If the investment cannot pay for the money it is using, then the money should be put into something which will. In this time of tight money and high interest rates, this is a cost to watch.

A very expensive factor which few operating people consider is income taxes. For example, in the state of North Carolina the total corporate tax rate is 55%. Each time you make a dollar, you can retain only 45 cents to pay for investment and its related cost.

The last factor to be considered is cash produced. This is the difference between savings realized and the cash expended to earn them. Cash produced is the item which replaces cash expended for the investment originally. Whenever you consider an investment it must produce during its productive life at least the amount which was originally expended for it. If it doesn't, you can't afford to realize the savings. Savings which reduce the capital investment are not savings.

The four examples given show different changes in the same process. Examples 1 and 3 cut out all operations of the process, but you will note that this investment is doing approximately as much as examples 2 and 4. Direct labor is saved in Examples 1 and 3, and is added in Examples 2 and 4. However, indirect labor savings for Examples 2 and 4 are much higher than Examples 1 and 3.

Example 3 is the same as Example 1 with the factors of fringe benefits and repairs and maintenance brought into the picture. Example 4 is the same as Example 2 with the factor of fringe benefits included. This was done in order to show what a large total difference these factors make in the final analysis.

The LOOMFIXER And His Job

By WILMER WESTBROOK

THE loomfixer should keep at least one pair of binders in his work bench. If the mill has a central shop that covers and refinishes these parts he should exchange the worn binders as soon as he removes them from the loom. If the loomfixer does his own refinishing he should recover the binders as soon as possible so they will be ready when needed.

To recover the binder, place it in a vise, leather side up, and strip off the old cover. Scrape the surface to remove the glue or cement and remove the tacks, brads or pegs.

A good scraper can be made from an old file or from a power hacksaw blade. Grind one side of the file or blade until it is very sharp but leave a short section at each end unsharpened so that it will not cut the hands.

Apply glue or cement to the face of the binder with a brush or paddle and let it set until it becomes "tacky." While the adhesive is setting, prepare the leather by cutting it into the correct length and bevel each end. Some mills buy binder leather in bevelled strips of the correct length for their binders.

A sharp knife is the best bevelling tool. Place the strip of leather on a smooth surface such as the top of the work bench and cut a small wedge off each end of the strip.

Put a thin coat of glue or cement on the undressed (bevelled) side of the leather and tack or peg one end to the binder. Some loomfixers use carpet tacks or small brads to attach the leather and others use shoe pegs.

The shoe pegs are best but require more time for installation because a hole must be driven for each peg. Use a sharp awl or ice pick to make the holes.

Start at the attached end of the leather and press it firmly into contact with the binder. A good tool to use for this purpose is a hammer handle or smooth rod. Rub the surface briskly with the tool, using considerable pressure. This action not only seats the leather firmly but it also smooths and polishes the surface of the leather covering.

Drive tacks, brads or pegs in the other end of the leather then remove the binder from the vise and lay it aside to allow the adhesive to set.

After the glue or cement has dried sufficiently, usually in an hour or two, trim the leather edges flush with the binder. Place the binder in the vise in the same position as before and rub the cut edges of the leather with the rod or hammer handle to smooth the fibers and give the edges a slightly rounded finish.

Replace the fiber bushing shim and the dagger finger bumper if they are worn. Rub the leather covering with tallow or a prepared dressing before the binder is put in the loom.

Before covering, reject any binder that has a too-flat surface, that is cracked or splintered, or is in a weakened condition from any cause.

If the hole in the end of the binder is worn too big for the bushing shim it can be made tight with a piece of paper or thin cloth. Place the paper or cloth over the shim and drive it into the hole with a hammer or press it into place with the vise.

A thin coat of shellac or spar varnish will dress the

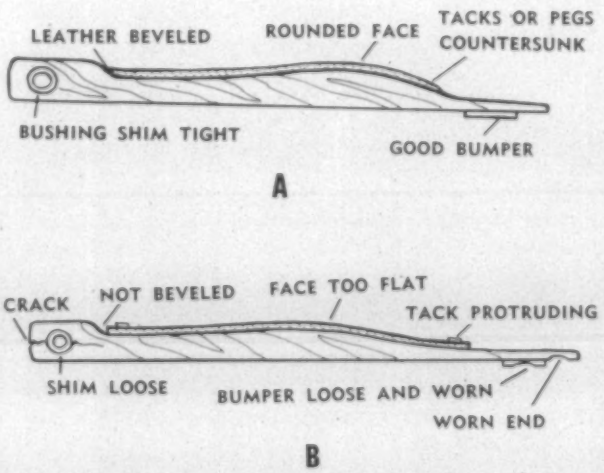


Fig. 1—A good binder, properly covered, should appear as shown in A. Some of the faults to look for in a binder are shown in B.

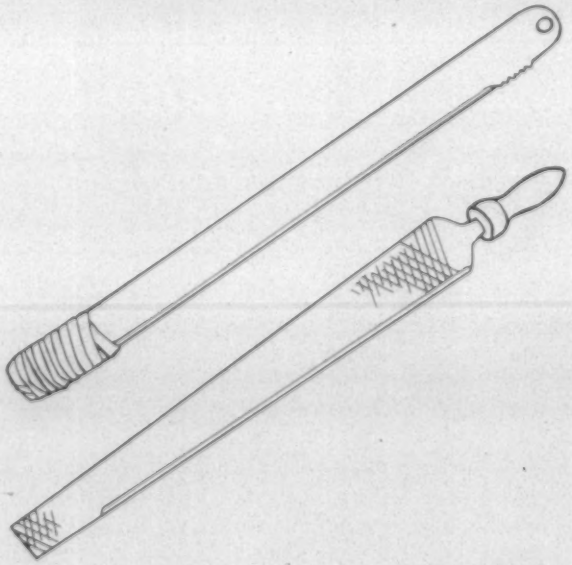


Fig. 2—A good scraper to remove glue and residue from the binder can be made from a power hacksaw blade as shown at the top. The ends of the blade can be wrapped with tape to make it safe. A scraper made from an old file is shown below.

Part Thirteen

The binder is a crucial loom part that needs frequent attention. Here is how to keep the binders on your section in good condition.

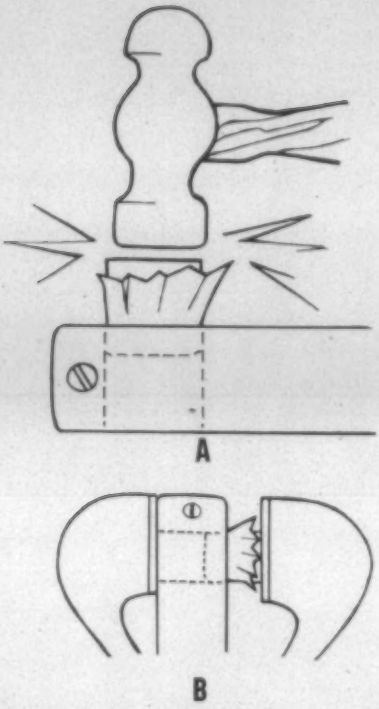


Fig. 3—Thin cloth or paper can be placed around the binder bushing shim if it does not fit into the hole tightly. Tap the shim into place with a hammer as shown in A or press it into the hole in a vise as shown in B.

wood part of the binder and protect it from oil and water. When the binder is put in the loom be sure that the bushing does not bind in the shim and that the binder swings freely. Check the dagger finger and the binder spring to see that they make proper contact. See that the binder does not drag on the lay end plate or the back box extension.

Preventive maintenance of the binders begins with a close inspection at least once a week. Check the leather cover for wear. See that the binder works freely but without lost motion.

Dress the leather surface at least once a week with tallow or prepared leather dressing. If soft tallow is available put about two ounces in a tobacco bag or tie in a piece of thin cloth. Rub the leather with this bag and enough tallow will soak through the cloth to put a coating on the leather.

Granular Cards On Display

At N.C. Vocational School

THE North Carolina Vocational Textile School at Belmont, N. C., has been given two granular card changeovers by John D. Hollingsworth on Wheels, Greenville, S. C. The granular top is a development of the Southern Regional Research Laboratory, New Orleans, La., and provides for carding without the use of flats (TEXTILE BULLETIN, April '59, p. 63). The granular units are to be given an intensive evaluation by the school and are also available for viewing by mill men.

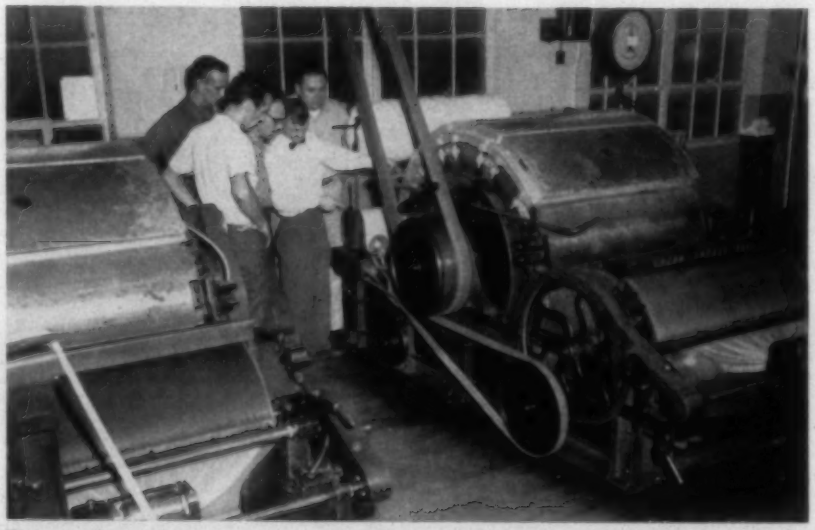
One of the new units is mounted on a Model 1943 Saco-Lowell card with conventional 110s wire. The other unit is mounted on a Model 1943 Whitin card with metallic clothing on both the cylinder and doffer.

The granular top consists of four precisely machined aluminum castings mounted in the place of conventional flats. Flats are completely eliminated. A pressure sensitive-backed abrasive paper is stuck on the inside surface of the casting. Other components of granular tops include: (1) pre-opener roll with clothing similar to but finer than licker-in clothing; (2) pre-opener roll cover; (3) licker-in cover; and (4) feed roll cover. Also included in the unit are suitable brackets with fine adjusting screws for the aluminum castings.

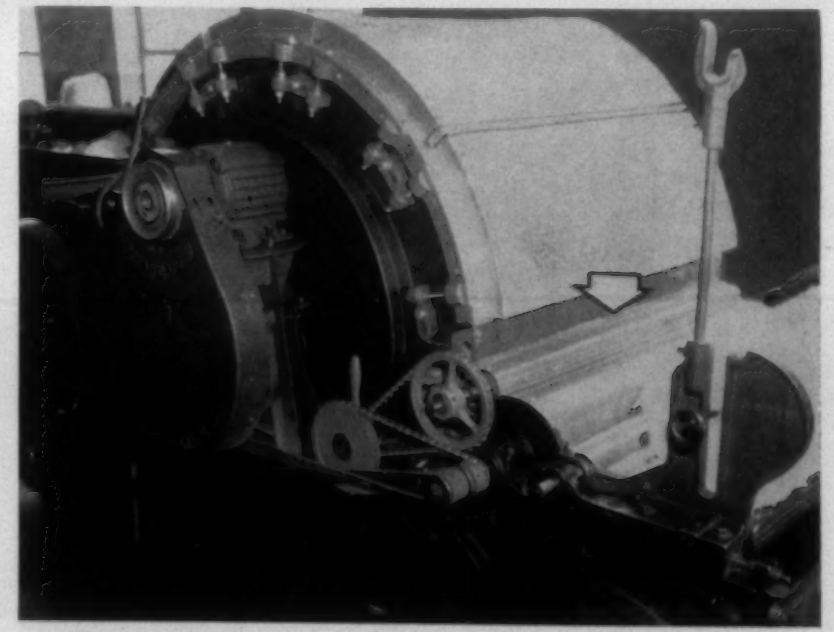
Advantages of the granular card are said to be the elimination of flat strips, reduced power consumption, less maintenance, cleaner card room due to less fly escaping from cards, and others.

Mills interested in sending representatives to view the card or to work out co-operative testing programs with the school should contact Chris E. Folk, principal, N. C. Vocational Textile School, P. O. Box 352, Belmont, N. C.

The granular card tops are mounted on two cards at the textile school. One card has metallic clothing on both the doffer and the cylinder, the other is clothed with conventional 110s wire.



The granular card tops consist of four aluminum castings with emery cloth-like covering on the inside surface, pre-opener roll, licker-in cover, and appropriate brackets and drives.



The pre-opener roll *(arrow)* is driven by belts and pulleys from the licker-in.

B. F. Goodrich Chemical Co. *displays its textile chemical products*

THE B. F. Goodrich Chemical Co. recently held a week-long trade show of its textile chemical products, processes and techniques at the Sheraton-Atlantic Hotel in New York City to show the progress the firm has made since it got interested in the textile chemical business in 1952.

Products displayed and demonstrated included Geon resins, plastics and latices of polyvinyl and vinyl acetate; Hycar nitrile and acrylic latex materials; Good-rite chemical intermediaries and plasticizers; and Carbopol dispersing, suspending and pentrating control agent. Applications described or demonstrated included those for binding nonwovens, dimensional stabilization; back coatings, decorative and functional finishes, pigment binding, wear resistance, heat sealing, pentration control, crock reduction, hand and drape variations and fabric lamination.

Nonwoven Outerwear

The company reported that it is experimenting with a new acrylic latex binder that might make possible the much discussed entry of nonwovens into outerwear fabrics. Tests have shown that the new latex can simplify compounding, reduce processing costs, increase stability and provide washability and drycleanability. The solving of these problems would go a long way in making it possible to produce nonwoven fabrics on a straight-line basis, as paper is now made. Such fabrics could be produced at such low cost that apparel made from them could be thrown away after they become wrinkled or soiled.

A nonwoven felt-like fabric *(right)* treated with a new Goodrich acrylic latex binder is not affected by dry cleaning solvents which rapidly deteriorate the nonwoven fabric *(left)* treated with a conventional binder. Goodrich has high hopes for the binder, still in the development stage, since it might open the way for expansion of nonwovens into outerwear.

The fabrics and gloves modeled here demonstrate the various decorative effects that can be achieved by inexpensive spray treatments of plastics. The "printing" can be done on a production-line basis.

Spray Printing

Still another development demonstrated at the exhibit was a process for "printing" decorative effects on fabrics. Paint spray equipment with special nozzles was used to impose random, multi-color effects on fabrics. The spray "printing" technique is designed to eliminate the cost of conventional printing equipment and engraving rolls. Its application is limited, of course, to random effects.

Speaking for Goodrich at the exhibit, Harry B. Warner, vice-president for marketing, pointed out, "The low initial cost of fabric treatment and finishing with chemicals can be the key to an unprecedented era of progress in the textile industry. The firm which takes an inexpensive product and improves it with chemicals stands to gain an advantage in the tremendously competitive textile business." He pointed out that more than $400 million worth of textile chemical products would be sold this year; and that Goodrich products represent a potential $50 million segment of the market.

Clemson Plays Host To The S.T.A.

A feature of the Fall meeting of the South Carolina Division of the Southern Textile Association, held October 10 at Clemson, was the following group discussion on "Slashing, Weaving and Cloth Room Practices." Serving as moderator was Louie Burkes, Calhoun Mills, Calhoun Falls, S. C. Panel members were Horace O'Shields, Reeves Bros. Inc., Woodruff, S. C.; Paul E. Bowie, Woodside Mills, Liberty, S. C.; and C. G. Bishop, Riverdale Mills, Enoree, S. C.

Question: What is the life of a Page check strap on an X-2 loom running a Tru-Mold shuttle?

Answer: We have about 500 looms equipped with the Page check strap, however, we haven't had them on long enough to get a good estimate of the life. In my experience, the Page check strap has one of the best check motions of any check strap. I have run them on X-D looms with 8¾-inch quills with Tru-Mold shuttles running 184 p.p.m. and got a life of 18 months per strap.

Answer: We have about five X model looms equipped with Page check straps. These looms are running 188 p.p.m. on combed goods. The Page straps are doing a much better job on checking and boxing than regular checks. We haven't had them long enough to tell anything about the life.

Question: Would anyone like to compare Page with No. 14 check straps?

Answer: I used to be on a job that had Draper No. 14 checks and I think it is one of the best check straps that has ever been put on an X-2 loom. I am trying some of them on my present job on X-2 looms making 174 p.p.m. One reason I like it better is because maintenance is lower. Strain is reduced because you have so many checks in there working.

Question: What is the opinion of the loomfixer comparing the Page check strap against the conventional check strap?

Answer: The Page is the only check strap that I have ever seen put on a loom that will sell itself to the loomfixer. Actually, my experience has been that after you first start them on a section you can't get them fast enough for the loomfixer to put them on. From talking with some of the loomfixers and supervisors about the strap, I have made a list of some of its benefits: (1) requires less adjustment; (2) better boxing of the shuttle therefore makes less kinky filling, jerk-ins and breakouts; (3) longer life; (4) better Monday morning start-ups; (5) less power on the loom; (6) longer picker stick life; and (7) lower operating costs. I would like to say this, I am not trying to sell Page check straps and I am not a salesman for Page.

Question: What speed do you run 40-inch E Model looms?

Answer: We have 275 modernized looms running 175 p.p.m. on fine combed goods.

Answer: We have 709 E Models running 165 p.p.m.

Question: Has anyone changed to heavy pick shafts and parallels to increase loom speed?

Answer: We put some heavy pick shafts on the looms but not to increase speeds. We think we get better wear out of them.

Question: Is anyone running plastic pickers and if so are you having trouble with shuttle knurls coming loose?

Answer: We ran one section on plastic pickers and we found that after about 1½ months we were having more knurls come loose on plastic shuttles.

Question: What speed are you running those looms?

Answer: 178 p.p.m. with Tru-Mold shuttles.

Answer: We have had some shuttle knurls come loose on looms with plastic pickers. We are running our looms faster. We don't feel that the shuttle is at fault. We think the knurls coming loose is due to the type of picker we are using.

Question: Are there any advantages of the unit take-up over the conventional type? Are there any disadvantages?

The Fall meeting of the S.T.A.'s South Carolina meeting also featured group discussions on "Opening, Picking and Carding," and "Maintenance and Engineering." Leading these discussions were *(left photo, left to right)* Harvey Cleveland, Woodside Mills, Easley, S. C.; Davis E. Ross, Abney Mills, Woodruff, S. C.; R. L. Daley, Inman Mills, Inman, S. C.; and *(right photo, left to right)* R. M. Watson, Drayton Mills, Spartanburg; Carl Franzen, Joanna Cotton Mills Co., Joanna, S. C.; Harry Barbrey, Woodside Mills, Greenville; and William H. Miller, Riverside Mills, Enoree, S. C.

Leading the weaving discussion at the Fall meeting of the South Carolina Division of the S.T.A. was this panel composed of Louie Burkes (chairman), Calhoun Mills, Calhoun Falls, S. C.; Horace O'Shields, Reeves Bros. Inc., Woodruff, S. C.; C. G. Bishop, Riverdale Mills, Enoree, S. C.; and Paul E. Bowie, Woodside Mills, Liberty, S. C.

Answer: I like the unit take-up on X-2 looms. They have their advantages but they also have their disadvantages. Draper has corrected the disadvantages I found in the unit take-up.

Answer: We have the Draper P-92 take-up. This is a box with fluid sealed in it and we have a shaft running from the gear box up to the take-up roll, sand roll. Out of one side of the box drives the ratchet take-up gear. The gear chain runs from the pick gear ratchet and goes into the side of the gear box. There are four gears in the box. We have them on some new 46-inch X-2 looms which are running pretty fast.

We have had some trouble with these take-ups. The gears were made of some kind of special brass that would not stand the wear. We kept insisting that the gears be made out of steel. We finally got some 12 sets in. The take-ups have been running some three years on one group of looms and about two years on the other group for a total of 300 looms. We have 12 units running with steel gears and have practically no wear. We see no reason why that is not the answer to the problem on the P-92 take-up.

We like this take-up because it allows you to have a low

Ward, Cone, Joslin

IN AN ELECTION OF NEW OFFICERS at the Fall meeting of the Northern North Carolina-Virginia Division, Herman Cone Jr. of Cone Mills Corp., Greensboro, N. C., was named chairman to succeed Horace Buchanan of Erlanger Mills, Lexington, N. C. A. L. Joslin of Dan River Mills, Danville, Va., was named vice-chairman; and Charles H. Ward, Highland Cotton Mills, High Point, N. C., secretary.

Presiding at the Fall meeting of the S.T.A.'s South Carolina Division was D. H. Roberts of Lydia Cotton Mills, Clinton, S. C., chairman of the division. Despite heavy rains, more than 300 attended the October 10 meeting.

cloth roll. We can run a very large roll of cloth if we desire. The doffing arrangement is very simple. The loom doesn't have to be stopped and you don't have marks like you do on high roll take-ups.

The only other trouble we have had has been with the metallized take-up rolls. After a period of time the metallizing wore thin and got slick. We've been trying rubber coverings and emery cloth coverings. We've had to put a sort of presser roll up high on the back side of the take-up roll. If we hadn't done this we would have had cloth slippage. We feel that using emery cloth roll covering and putting a spring-type presser roll on the back of the sand roll, the problem is eliminated.

Another good thing about the take-up is that it can be removed in 10-15 minutes and replaced with another unit. Then the one that was taken off can be overhauled and loom down-time is saved.

Question: Are link-type parallels satisfactory? How does cost of up-keep compare to the old type parallels? What effect does the link-type parallel have on seconds, shuttle life, pickers and check straps?

Answer: We have some 150 looms on the link-type parallels. We haven't had them long enough to get accurate cost figures. It would be hard to say what effect it would have on seconds or life of pickers or check straps. I feel it will throw a straighter shuttle and I don't think you have quite as much wear on the leather or the pickers.

This shirt sleeve session on spinning was led by E. T. McClure, The Kendall Co., Newberry, S. C.; J. J. Love, Mayfair Mills, Arcadia, S. C.; and Dewey Quinn, Calhoun Mills, Calhoun Falls, S. C.

Answer: We have some 150 looms on the link-type parallels and we think the supply cost is about one-half the supply cost on the old type. This is a rough estimate because the looms are in the same room and we don't keep accurate figures between the two kinds of looms. We haven't proved anything on the effect on seconds but we know the link-type does a much better job on throwing the shuttle. We have had some trouble with shuttle life in that with the link-type parallel the center fork has to be set pretty high or it will start dragging on the shuttle. You have to have a little closer setting on the filling fork. Other than that we haven't been able to tell anything about the difference in check strap life.

Answer: Our experience wasn't too good with the link-type parallels. One thing we found you had to do was to run a very thin light lug strap with link-type parallels. Heavy lug straps just won't work.

Question: What is the average life of conventional type check straps for E Model looms, 40-inch width, 165 p.p.m.?

Answer: We get about three months life on check straps on our E Models running at 175 p.p.m.

Answer: Ours are running in the neighborhood of six months.

Question: What is the life of picker sticks?

Answer: We use a plain hickory picker stick on E Models and these last about eight months.

Answer: We use Draper sticks on X-2s and they run between six and eight months.

Question: What is the expected life of Draw-Tex heddles and Draw-Rite heddles and frames on E Model looms and using stationary tying-in machines?

Answer: We have been running Draw-Tex and Draw-Rite for something like six years on drawing-in and stationary tying-in machines. I would say we have no noticeable wear on them yet.

Answer: We have three years life on some running on X-2 looms and they show no wear.

Answer: We have some running about three years and I notice some of the heddle bars are beginning to wear.

Answer: We went to Draw-Tex and Draw-Rite when we changed from print cloth to fancy colored goods. We reduced from over 20 drawing-in hands to about five. We have two drawing-in machines. Labor reduction is the main advantage. With Draw-Tex and Draw-Rite we feel like you get a very sturdy frame with wide bars. In fact, we wouldn't mind using drawing-in machines even if we were running plain goods. We think you get better service from either Draw-Tex or Draw-Rite. We were able to reduce our warp stops at least 30% when changing from regular harness to Draw-Rite.

Question: What life is expected on duplex heddles on X-2 looms running 185 when using a stationary tying-in machine?

Answer: Some of our older looms had duplex heddles and we have gradually been working them out. We are going to Draw-Tex or Draw-Rite.

Question: What thickness check straps are being used on X-2 looms? What speeds are being run and what kind of shuttle is being used?

Answer: We use the Page heavy-duty check strap and it is about ½-inch thick. I haven't had them long enough to tell what the strap life will be. We use Tru-Mold shuttles.

Answer: We have about the same thing. We use the heavy-duty Page check strap also. This strap is made primarily for the Tru-Mold shuttle.

Answer: We use an endless check strap which is ¼-inch thick. I can't tell you the life of these straps.

Question: What experience have you had using fabric-type check straps?

Answer: We just recently put on a few fabric checks. They are working just fine as regards humidity, temperature, etc. The only objection we have found is that the strap will be cut if it hits the friction check or a bolt head. Outside of this drawback, we are getting good results.

Cloth Room Questions

Question: How can variation in cloth-folds be corrected on folders? What is the cause of variation?

Answer: These problems are accentuated by high speed production. We try to maintain the proper tension at all times. The slower you can run the folder the better off you are in this problem.

Question: What humidity do you run in the cloth room?

Answer: About 72-74% controlled humidity.

Answer: We try to keep a controlled humidity of about 68% in our cloth room.

Answer: We control our cloth room humidity at 65%.

Question: What temperature do you run in your cloth room and do you have refrigeration?

Answer: We keep our temperature at 78 degrees and we have refrigeration.

Answer: We are refrigerated and keep 78-80 degrees temperature.

Slasher Questions

Question: How do you dry two-ply selvage yarn on a hot

air slasher?

Answer: We have to slow down our normal speed with two-ply selvages. In other words our normal speed is about 90 y.p.m. We drop the speed 30-40% to get the selvage coming out dry.

Answer: We run two-ply selvages only through the front squeeze, skip the immersion and back squeeze roll and if necessary make an extra pass through the hot air box.

Question: How do you dry two-ply selvage yarn with a cylinder slasher?

Answer: Just put the two-ply through the finisher squeeze roll. Even at that we still get 2-3% more moisture in the selvages.

Question: How do you keep yarn from rolling on hot air slashers?

Answer: We have never had trouble with ends rolling as yet.

Question: What are your hot air and nine-can slasher speeds?

Answer: Our hot air slasher runs 100 y.p.m. on warps with 2,100 ends of 22s yarn. With 5,600 ends of 22s yarn we run about 50 y.p.m.

Answer: On ten-can slashers we go from 55 to 108 y.p.m. depending on the warp construction.

Answer: On nine-can slashers we run anywhere from 55 to 80 y.p.m. depending on the number of ends and the count of the yarn. I have found that we get better results from 55 to 80 than we do at higher speeds.

Answer: On 30s yarn on nine-can slashers we run 90 y.p.m.

Answer: On 21s yarn 80 sley we are running 120 y.p.m. on nine-can slashers. On 48 sley we run 135 y.p.m.

Question: On multi-can slashers, do you have the most heat on the front or back cans?

Answer: We have the back three cans Teflon coated. We run with the hottest cans in the middle three section. The back three cans are a few degrees below the middle cans. The front cans are cooler yet. If the back cans are too hot you get a baking action instead of a drying action. We have temperature controls on each of the three groups of cans.

The group discussion on "Spinning, Spooling and Winding" at the Fall meeting of the S.T.A.'s South Carolina Division was led by J. J. Love, Mayfair Mills, Arcadia, S. C.; E. T. McClure, The Kendall Co., Newberry, S. C.; and Dewey Quinn, Calhoun Mills, Calhoun Falls, S. C. The following is an excerpt from the transcript of the discussion.

Question: Can you run a soft cot, say a 728, in a refrigerated spinning room?

Answer: Yes, you can.

Answer: We have tried 768 cots on about 10,000 spindles. This cot is somewhat harder than the 728. The 768 is fine as long as temperature and humidity stay constant and normal. We do not have refrigeration and when the temperature goes up we have extreme amounts of lapping. We run 42 to 45% humidity. We have atomizers.

Question: Do you have lap-ups on frames with vacuum ends-down collectors?

Answer: Lap-ups are caused by extremes of relative humidity. Sometimes we have lots of lap-ups with low humidity and sometimes we have lots of lap-ups with high humidity.

Question: How long will vacuum ends-down collectors run between clean-outs of the waste collection box?

Answer: We have the Bahnson Collect-O-Vac with a 14-inch can and can run for eight hours without cleaning out the waste box. With 12-inch fans we had to clean out every three to four hours.

Question: Has anyone had any experience in increasing vacuum in ends-down collector systems?

Answer: I don't know why, but in three spinning rooms we can't run any alike.

Question: Has anyone been able to prove that lap-ups are worse on the end of the frame away from the collector box?

Answer: We can't see much difference in laps from the foot-end and the head-end.

Question: Is there any advantage to increasing the size of the slots on ends-down collectors?

Answer: You'd have to have a stronger fan if you did but I think you would gain by keeping cleaner rolls.

Answer: On coarser numbers it is necessary to have a larger orifice. Numbers such as 5s and 10s take a larger size orifice than 30s and 40s.

Question: Is the slot longer or wider?

Answer: Wider.

Question: What effect does the roll covering have on the amount of lap-ups on the front steel rolls?

Answer: We changed to 728 cots and this helped out our roll lap-ups. We also shortened our roving traverse. We keep our relative humidity around 45-48% most of the time. We found if the humidity gets too low, you'll start getting too many lap-ups.

Question: What is the point where it gets too dry and you start getting too many lap-ups?

Answer: I'd say about 35-38%. We have the Bahnson Humiduct system of humidification.

Question: Do you have problems with lapping in refrigerated spinning rooms?

Answer: I can't say that refrigeration helps decrease lap-ups. We are doing better than we did when we first got the refrigeration system.

Question: What temperature do you have when you maintain low humidities such as in the high 30s and low 40s?

Answer: About 105 degrees in the shade. I don't think you can control such low humidities.

Question: How many mills check gear run-out? If you check this, what is your tolerance?

Answer: We have a gear checker and hold gears to 0.007-inch run-out.

Question: What gears do you check on spinning frames?

Answer: All steel roll gears.

Question: Has checking the gears helped your evenness and running conditions?

Answer: I don't know exactly but it has been awfully good for us. The yarn is more even and runs better. The yarn is stronger too.

A.A.T.C.C. Re-Elects Helmus

Weldon G. Helmus, president of Fair Lawn (N. J.) Finishing Co., has been re-elected president of the American Association of Textile Chemists & Colorists in a mail vote, according to George P. Paine, executive secretary. Named vice-presidents were: Dr. W. George Parks, University of Rhode Island, Kingston, R. I., for the Northern New England Region; C. T. Anderson, Ciba Co., Philadelphia, Pa., for the Central Atlantic Region; A. Henry Gaede, Laurel Soap Mfg. Co., Charlotte, for the Southern Region; and Joseph H. Jones, Phoenix Dye Works, Cleveland, Ohio, for the Western Region.

Woolen And Worsted Consumption Down

The weekly average rate of fiber consumption on the woolen and worsted systems in September was 9% below the August rate, but 3% above that of September 1958. The weekly average raw wool consumption during September was 8,221 thousand pounds (scoured basis) or 7% below the August level, and 11% above that of September last year. Consumption of apparel class wool was 6% below the August rate and 13% above that of September 1958.

The rate of consumption of carpet wool declined 9% from the consumption during the preceding month, but was 7% above the rate for September of last year.

Combed Yarn Lab Planned

The Combed Yarn Spinners Association has announced plans to establish a laboratory in the School of Textiles at North Carolina State College, Raleigh, N. C. The lab will perform semi-annual quality audits for participating mills. The program in the School of Textiles will be under the direction of Professors E. B. Grover and D. S. Hamby.

Promotions, Resignations, Honors, Transfers, Appointments, Elections, Civic and Associational Activities

PERSONAL NEWS

Gaylord Davis and Dr. Frits Prakke have been named directors and members of the executive committee of American Enka Corp., Enka, N. C. Both Davis and Dr. Prakke are officers of the corporation. Davis

Davis

Prakke

is financial vice-president and general counsel, and Dr. Prakke is vice-president in charge of manufacturing. . . . K. J. Martus has been named nylon merchandising specialist for the company. He was formerly with The Chemstrand Corp. where he was a merchandising specialist on Acrilan and nylon.

Alfred A. Mercier, commodity industry analyst in the textiles division of the U. S. Tariff Commission, has retired after 38 years of federal service.

R. Barton Hayes, president of Hudson (N. C.) Cotton Mfg. Co. and Caldwell Cotton Mill, Hudson, has been named to the board of directors of the Bank of Granite at Granite Falls, N. C.

Martini

J. A. Martini has been appointed merchandising assistant to the vice-president in charge of sales, a newly created position with the Duplan Corp., Winston-Salem, N. C. Martini was previously technical service representative at Duplan's Kingston, Pa., division. In his new position he will have his headquarters in the general office in Winston-Salem and will work directly with the sales division, product research and development group and in an advisory capacity to the technical service division.

Paul D. Emery has been appointed assistant superintendent of the Riverside Division of Dan River Mills, Danville, Va. Emery was formerly assistant to Robert Harris, vice-president of Fieldcrest Mills, Spray, N. C. Prior to that, he was associated with Bates Mfg. Co., Lewiston, Me., for more than 25 years.

Thomas N. Farr, former assistant secretary of the Columbia (S. C.) Bank for Cooperatives, has joined James Talcott Inc., New York City, financing and factoring organization, as a field representative. Farr will have his offices in Charlotte, N. C.

R. E. Terrell Jr., vice-president and plant manager of the Terrell Machine Co., Charlotte, has been appointed to serve on the advisory committee of the Industrial Experimental Program of North Carolina State College.

David Silver, president of Blanche Cotton Mills of Augusta, Ga., has been named a member of the board of trustees of the Yeshiva University, New York City. Yeshiva University, America's oldest and largest university under Jewish auspices, comprises 17 schools and divisions located at six teaching centers in New York City.

Cutting

Arch E. Cutting has joined Southern Machinery Co. of Greenville, S. C., as sales engineer. Cutting has been employed with Fieldcrest Mills in Leaksville, N. C., the Pneumafil and Uster Corps. in Charlotte, N. C., and the Meadows Mfg. Co. in Atlanta. He will travel in the Southern territory.

Joseph Morse has been named to the newly-created post of financial vice-president by The Sun Chemical Corp., New York City. Morse was formerly director of finance operations at Radio Corp. of America.

R. Dave Hall Jr., son of the second vice-president of the American Cotton Manufacturers Institute, was injured in an automobile accident in Hickory, N. C., recently.

Young

James R. Young has joined Lowell Industries, Boston, Mass., and Greenville, S. C., as a sales representative. Young will make his headquarters in Greenville. He will call on the textile trade in the Southern states. Lowell's major product is the Vibra-Check insulation. It is a wholly-owned subsidiary of H. F. Livermore Corp., Boston, Mass., manufacturer of loom parts.

Dexie M. R. Mills has resigned his position as standards manager of Fulton Cotton Mills, Atlanta, Ga., to accept the post of investment sales representative with the Atlantic & Pacific Life Insurance Co. of America in Atlanta.

Lucius Collins has been named manager of the Du Pont Co.'s New York consulting service for the dyeing and finishing trade. Formerly manager of the dyes and auxiliaries sales development section of the company's dyes and chemical division, he succeeds Samuel A. Petfus, who is resigning from the company December 1. Collins joined Du Pont in 1927. Prior to that he had worked as a plant chemist and dyer at the U. S. Finishing Co., Providence, R. I.

O. B. Haney has been named manager of Texas Textile Mill in McKinney, Tex. The Waco mill of the firm will be merged

with the McKinney plant. Haney is former manager of the Waco Mill. He has been with the company for 36 years.

Charles L. Fitts has been named its representative in the Virginia and eastern North Carolina territory by National Ring Traveler Co., Pawtucket, R. I.

William H. Beattie has retired as chairman of the board of Woodside Mills, Greenville, S. C. Beattie continues as a director of the firm. He entered the textile industry in 1921 in the cost department of Victor-Monaghan Mills, Greenville. He became president of Woodside in 1948.

Abney

John Sidney Abney, president and treasurer of Abney Mills, Greenwood, S. C., has been elected a member of the board of directors of State Bank & Trust Co., Greenwood. Abney is the son of the late John Pope Abney, founder of Abney Mills. He has been closely associated with Abney Mills for many years and was elected president and treasurer in 1959.

Dr. Bernard W. Rottschaefer has been appointed special projects co-ordinator of the dyestuff and chemical division of General Aniline & Film Corp., New York City. In his new position, Dr. Rottschafer replaces Dr. John C. Lawler who was recently promoted to plant manager of the division's manufacturing operations at Rensselaer, N. Y. Dr. Rottschaefer was formerly production manager of the Rensselaer plant.

Hundley

Robert H. Hundley Jr. has been named general superintendent of Corlin Processing Co., Landis, N. C. Hundley began his textile career with Marshall Field Co., Leaksville-Spray N. C. Since 1937 he has been with Rosemary Mfg. Co., Roanoke Rapids, N. C., as superintendent of package, beam and raw stock dyeing and bleaching. Corlin Processing Co. is now under construction at a cost of $750,000 and is a wholly-owned subsidiary of Linn Mills Co. and Corriher Mills Co., Landis, N. C.

Albert B. Connelly has been appointed manager of the Birmingham, Ala., sales office of Allied Chemical Co.'s general chemical division. He succeeds John T. Wiegrand, who has been named manager of the Los Angeles, Calif., office. Connelly joined General Chemical Division in 1949

Paul A. Homier has been named superintendent of Callaway Mills Co.'s Valway Plant, La Grange, Ga. He was formerly superintendent of the Callon plant in La Grange. . . . Robert J. Keithley has been named plant chemist at Valway. . . . James E. Hallinan has joined the company's research and development division as product development engineer for the Manchester (Ga.) plant. He was previously with Collins & Aikman Corp., New York City.

Robert M. Robbins has been assigned to the Armstrong Cork Co., district sales office in Greenville, S. C. Robbins is a 1959 graduate of Denison University.

John M. Reeves, chairman of the board of Reeves Bros. Inc., New York City, J. Harris Covington of Harriss & Covington Hosiery Mills, High Point, N. C., and Dr. Henry Jordan, president of Sellers Mfg. Co., Saxapahaw, N. C., recently accompanied North Carolina's Governor Luther Hodges in an industry-seeking tour of western Europe.

McCardle

Billy E. McCardle of Charlotte, N. C., has joined the Dewey & Almy Chemical Division, W. R. Grace & Co., as sales representative for organic chemicals in North and South Carolina and Virginia. McCardle was formerly with Southern Sash Sales & Supply Co., Sheffield, Ala., and has also served with the Flagg Utica Corp. and Avondale Mills. He received a B.S. in chemistry from the University of Alabama in 1951.

J. Morton Curran Jr. has resigned as president of William L. Barrell Co. of New York City and is joining Iselin-Jefferson Co. of New York. Summerville (Ga.) Mfg. Co., which is headed by Curran, will be represented by Iselin-Jefferson in the future. . . . Somers Ritchie Jr. has also resigned from William Barrell in order to join Iselin-Jefferson. . . . Sallo M. Kahn, chairman of the Barrell Co., has been named president.

C. R. Hall, Greensboro, N. C., district sales manager of American Enka Corp., is the first member of the company's marketing division to be awarded a 30-year service pin. Hall joined Enka in October 1929 as a weaving technician in the textile laboratory at the Enka, N. C., plant and soon became a technical service representative, visiting mills throughout the country. In 1943, Hall joined Enka's general sales office in New York, and six years later, he was transferred to the Greensboro, N. C., sales office. In 1952, he was appointed sales manager of that office, the post he currently holds.

Herman Cone Jr., director of Cone Mills Corp., Greensboro, N. C., has been named chairman of the Northern North Carolina-Virginia Division of the Southern Textile Association. Cone succeeds H. W. Buchanan, superintendent of Erlanger Mills, Lexington, N. C. . . . Al Joslin of Dan River Mills, Danville, Va., was elected vice-chairman. . . . Charles Ward of Highland Cotton Mill, High Point, N. C., was named secretary. He succeeds Howard Barton of Fieldcrest Mills, Leaksville, N. C., who had served as secretary for 18 years

and asked to be relieved of his duties. . . . New directors are Smith Crow Jr., superintendent, Leward Cotton Mills, Worthville, N. C., and Don Rice, superintendent of Wenonah Cotton Mills, Lexington, N. C.

Cyril J. Kaemmerlin Jr. has been appointed business manager of Charlotte, N. C., development laboratory of Celanese Fibers Co. Kaemmerlin joined Celanese Fibers headquarters at Charlotte in 1953 in the process engineering department.

Charles D. Reich, manager of the woven goods department of the fibers division of American Cyanamid Co., has resigned. Reich joined the company in 1953.

W. Lane Verlenden II, has been advanced to the office of vice-president and assistant treasurer of the Standard-Coosa-Thatcher Co., Chattanooga, Tenn. Verlenden joined the firm in 1935, and was made purchasing agent in 1941. He held this position until 1946 when he became chief engineer, where he served until his present advancement.

Howard N. Smith has joined the staff of the United States Testing Co., Hoboken, N. J., and will supervise a number of basic fiber quality control programs. Smith has had wide experience as a designer, stylist and laboratory director in the textile industry. He is a graduate of the Philadelphia Textile Institute.

Irvin L. Payne, formerly superintendent of Dan River Mills' Alabama Division, has been appointed assistant general superintendent of the company's greige manufacturing operations in Danville. . . . Louis DeLoach has been named superintendent of the Alabama Division, succeeding Payne. DeLoach, previously assistant superintendent, will have charge of the company's four plants in Alabama.

Dr. Harley Y. Jennings, former director of research for Dan River Mills, has joined the Textile Research Center of the School of Textiles, North Carolina State College, Raleigh, N. C. Dr. Jennings was director of research for Dan River Mills at the time of his retirement in May of this year. While at Dan River, he directed pioneering work in development of wash-and-wear finishes, their application to fabrics, and their formulation.

OBITUARIES

Reginald Lee Harris, 69, chairman of the board of Roxboro (N. C.) Cotton Mills and a director of the North Carolina Textile Foundation, died October 27. Mr. Harris was also a former lieutenant governor of the state and served for six terms in the state house of representatives.

Arthur O. Hefner, Sr., 60, former superintendent of Brookford (N. C.) Mills, died November 8 at a Kings Mountain (N. C.) Hospital. At the time of his death, Mr. Hefner was serving as a textile inspector for the federal government. Surviving are his widow, two daughters and a son.

Allen Fletcher Johnson, 90, retired textile executive, died at his home in Greenville, S. C., on October 21. Mr. Johnson became office manager of the West Point (Ga.) Mfg. Co. in 1894. From then until his retirement in 1943 he held a number of executive posts with several Southern textile firms. At the time of his retirement he was president and treasurer of American Spinning Co., Greenville, and Florence Mills of Forest City, N. C. Survivors include his widow and a daughter.

Henry P. Kendall, 81, chairman of the board of The Kendall Co., Boston, Mass., died November 3. Mr. Kendall had not been active with the company for some time. He built the company up to its present $100 million plus level from its original small beginnings in a run-down plant in Walpole, Mass.

W. H. Muse, 70, former assistant manager of Erwin Mills plant at Erwin, N. C., died October 28 at his home in Beaufort, N. C. He is survived by three sisters and three brothers.

Henning Prentis Jr., 75, chairman of the board of Armstrong Cork Co., Lancaster, Pa., died October 29. Mr. Prentis served on the board of a number of organizations. He served as president and chairman of the board of the National Association of Manufacturers. He joined Armstrong Cork in 1907. His widow survives.

MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

NEW YORK, N. Y.—Estimated consolidated net earnings of $2,312,000 after income tax has been reported by United Merchants & Manufacturers for the three months ended September 30. Income tax provision was $2,077,000. Consolidated net earnings for the corresponding period last year totalled $2,151,000 after income tax provision of $1,078,000. Earnings per share for the latest period were 39 cents as compared with 36 cents a share last year.

GREENWOOD, S. C. — Greenwood Mills here has announced that it will put into effect a profit sharing plan for its employees at the end of the 1959 fiscal year, provided the plan is approved by the Internal Revenue Service. All regular full-time employees will be eligible to take part in the plan, including salaried, production and hourly-paid employees.

ROCKMART, GA.—The Goodyear Tire & Rubber Co. mill here is presently observing its 30th anniversary. The mill was originally established as a cotton cord producing unit. Today it produces rayon and nylon tire cord and rubberized fabrics.

NEW YORK, N. Y.—M. Lowenstein & Sons Inc. has reported net earnings of $1,140,843 or 40 cents a share for the three months ended September 30. This compares with earnings of $320,000 or 11 cents a share in the comparable period of last year. Sales for the three months totalled $102,387,284 against $98,553,655 in the comparable period last year. In the nine months to September 30, net profit was $3,045,931, or $1.07 a share against $1,205,293 or 42 cents a share in the comparable 1958 period.

DANVILLE, VA.—Dan River Mills here had earnings of 29 cents per share for the third quarter, representing an increase of 61% over per share earnings of 18 cents in the comparable period a year ago, W. J. Erwin, president, reported to stockholders recently. For the nine-month period ended October 3, 1959, earnings per share were equal to 86 cents, a gain of 28% over the 67 cents earned in the first nine months of 1958. Consolidated net sales in the quarter just ended were up 10% to $39,829,877 from sales volume of $36,253,980 a year ago, and net earnings rose to $1,344,213 compared with $854,059 a year ago. For the nine months, consolidated net sales were at record levels totalling $124,983,039 in comparison with $115,896,802. Net earnings were $3,994,483 for the first nine months this year and $3,135,742 a year ago.

GREENSBORO, N. C.—Burlington Industries reports consolidated net sales of $805,450,000 for the fiscal year ended October 3, 1959. In the fiscal year ended September 27, 1958, consolidated net sales were $651,461,000. Net earnings for the fiscal year ended October 3, 1959, were $27,643,000 after deducting income taxes of $29,810,000 and minority interests in earnings of $984,000. Earnings amounted to less than 3½ cents for each dollar of sales. After preferred dividends, net earnings were equal to $3.03 per share on the 8,684,660 average common shares outstanding during the fiscal year. The results for fiscal 1959 are subject to final confirmation by the auditors. Net earnings for the fiscal year ended September 27, 1958, were $11,687,000 after deducting income taxes of $13,844,000 and minority interests in earnings of $236,000.

SPARTANBURG, S. C.—The Glendale and Pequot Mills plants of Indian Head Mills near here have been sold to Edward Krock of Worcester, Mass. Deeds covering the sale listed the sale prices as $361,250 for Glendale Mills at Glendale and $712,586.75 for Pequot Mills at Whitney. Indian Head has leased the plants back with plans to continue their operation as Indian Head Industries.

GREENSBORO, N. C.—Cone Mills Corp. here reports a net profit of $3,851,339 or $1.08 a common share for the nine months ended September 30. This compares with $2,443,743 or .67 cents a share in the like 1958 period. Net sales totalled $146,966,903 as against $123,556,575 for the previous fiscal year. These results include non-recurring income of $410,000 or 9 cents a share in 1959 and $494,225 or 11 cents a share in 1958.

CLINTON, S. C. — Clinton Cotton Mills and Lydia Cotton Mills here have placed a textile machinery modernization order in excess of $1 million with Roberts Co., Sanford, N. C. The order covers 328 spinning frames with 85,000 spindles. The modernization will entail the revamping of 284 frames with 72,000 spindles and erection of 44 new Roberts Model C frames with 12,572 spindles. The mills have placed orders with Saco-Lowell Shops, Boston, Mass., for high compression calenders for all its pickers. It has also ordered from Saco-Lowell 216 deliveries of Saco-Lowell Versa-Matic drawing and 65 sets of double-line Uniflex lifting rolls.

AVONDALE, ALA.—Avondale Mills here reports net earnings of $1,475,193 for the fiscal year ended August 31. This was an increase of 47% over the $1,003,066 earned in the previous fiscal year. After making provision for the preferred stock dividend, the company earned $2.23 per share of common stock as compared with $1.45 a common share in 1958. Net sales for the fiscal year totalled $61,906,522.51 against $52,163,814.56 for the previous fiscal year. The company reported that at the end of the fiscal year it had 1,269 cards, 245,660 spindles and 3,485 looms in operation.

BOAZ, ALA.—Boaz Mills here has been sold to the Flint River Cotton Mills Group, Albany, Ga., by Claude M. Elrod. New owners are: Ernest Weatherbee, H. B. Weatherbee, Francis Weatherbee, and J. Rollins Jolly. H. B. Weatherbee is president of Flint. Boaz was founded in 1925. It is presently manufacturing synthetics on the cotton system. The new owners report that they will continue to make the same products with the same personnel. Elrod will be a director of the mill but will have no other part in the mill's operations.

NEW YORK, N. Y.—Riegel Textile Corp. and subsidiaries have reported consolidated earnings of $1,819,000 for the fiscal year ended October 3. This compares with net earnings of $702,851 in the previous fiscal year, or 62 cents a share. Net sales for the year totalled $97,350,000 as compared with $80,968,752 for the fiscal year 1958.

GREENSBORO, N. C.—Cone Mills Corp. has recently purchased 27 12 x 6½ roving frames from the Whitin Machine Works, Whitinsville, Mass. Twelve have been installed in the Edna Plant at Reidsville and 15 are assigned to Revolution Mill in Greensboro.

NEW YORK, N. Y.—Erlanger Mills Corp. here has recorded a net profit of $970,397 for the fiscal year ended August 29. This compares with net earnings of $733,618 a year earlier. Sales for the year totalled $32,675,083 against $27,516,032 in the previous fiscal year.

DURHAM, N. C.—Erwin Mills here reports net sales of $70,770,123 for the fiscal year ended September 30 as compared with $57,716,068 for the fiscal year of 1958. Net profit totalled $1,622,058 against $1,069,312 in the previous fiscal year. Per share earnings for fiscal 1959 were $1.50 as compared with 99 cents in 1958. The sales were the largest in the firm's history.

WEST POINT, GA.—West Point Mfg. Co. here has been awarded a contract by the Military Clothing & Textile Supply Agency of the Philadelphia Quartermaster Depot for single loop terry weave bath towels, 20" x 40". The contract calls for 2,257,968 towels at $936,605.13.

INMAN, S. C.—Inman Mills here is installing Whitin Axi-Feed and Axi-Flo equipment in the opening room at Saybrooke Division here and has purchased four 14 x 6½ Whitin roving frames for the Inman Division.

CHERAW, S. C.—Plans to build a new plant here for the finishing of blended fabrics have been announced by J. P. Stevens & Co. George P. McClenaghan and James Harrell, vice-presidents of the Stevens Co., said that the new plant will be located on the same property as the present Delta Finishing Plant near here. Floor space will be approximately 250,000 square feet. The plant will cost in excess of $3 million.

NEW BEDFORD, MASS.—Sale of two large buildings on the former Wamsutta Mills property here to Calvine Cotton Mills, a subsidiary of Botany Industries Inc., has been announced by Frank G. Binswanger Inc., industrial realtors who handled the transaction. According to Binswanger, who represented M. Lowenstein & Sons Inc., owners, Calvine Mills purchased two buildings totalling approximately 450,000 square

feet. Calvine will utilize the buildings to expand its present textile manufacturing facilities here. Calvine Mills also operates plants in Rhode Island and North Carolina. It is anticipated that the new industry for this city will employ several hundred persons. The company expects to begin operations in the new building in January.

NEW YORK, N. Y.—United Merchants & Manufacturers Inc. expects 1960 earnings of its Robert Hall chain of clothing stores to be the highest since 1956. Earnings that year for the 297-unit chain reached $2.44 million. U.M.&M.'s integrated operations produced a net income of $12.4 million in the fiscal year ended June 30, 1959. This marked an increase of 74% over the previous year. In addition to the Robert Hall chain, the parent company has three financial subsidiaries—United Factors, U.M.&M. Credit Corp. and U.M.&M. Financial Corp.

SPRAY, N. C.—Fieldcrest Mills here is moving its subsidiary, St. Marys (Ohio) Woolen Mfg. Co., to Spray, N. C. as part of a short term expansion program involving a $3 million expenditure. St. Marys produces woolen blankets. It was purchased by Fieldcrest in 1957. It will continue to manufacture blankets under the St. Marys label. Key personnel will be transferred from St. Marys, Ohio, to Spray. Fieldcrest's automatic blanket operation will be expanded with the addition of a new 220,000 square foot plant at Smithfield. Both moves are part of a company-wide $9 million expansion program.

HENDERSON, N. C. — Henderson Cotton Mills here will undergo a $500,000 expansion, according to John D. Cooper Jr., president. The expansion will give the mill an additional 18,000 square feet of space. The present one-story building will be converted to a two-story building. Cooper said the addition is necessary for the installation of additional machinery and equipment in the latter part of 1960. An additional 4,000 spindles will be installed in the second quarter of 1960 in the Henderson mill and its sister plant, Harriet Cotton Mills also in Henderson. Employment at the mills now totals 1,074 persons.

BALTIMORE, MD.—Third quarter sales of Mt. Vernon Mills here were $11,467,502 as compared with $9,590,394 for the same period last year. Earnings for the third quarter this year totalled $221,637 as compared to $72,418 for the third quarter of 1958. Sales for the nine months ended September 30 were $34,361,891 against $28,988,090 for the same period in 1958. Earnings for the nine-month period were $713,230 or 94 cents a share as compared with $152,404 or 19 cents a share in the same period in 1958.

ROCKINGHAM, N. C. — Aleo Mfg. Co. here, a subsidiary of M. Lowenstein & Sons, will undergo a $250,000 expansion, according to L. L. Lowenstein, chairman of the Lowenstein board. The expansion will be in operation by Spring of 1960. The Lowenstein chain purchased Aleo in 1945.

NEW YORK, N. Y.—J. W. Valentine Co. has entered into a tentative agreement for the purchase of the manufacturing facilities of Buck Creek Cotton Mills at Siluria, Ala. Fred F. Phillips, president of Buck Creek, said that the purchase is subject to approval by the Valentine board of directors. Valentine plans to operate the mill as Siluria Mills Inc., with Henry Johnson, executive vice-president of Buck Creek, acting as resident manager. Fred F. Phillips will be a member of the board of the new company and will act as a consultant. Buck Creek will continue to operate Starkville (Miss.) Mills.

STATESVILLE, N. C.—The 47,000-square-foot Holgate Toy Co. plant here has been sold to the Bronx, N. Y., firm of Melville Textile Print Works. According to Frank G. Binswanger Inc., industrial realtor who represented Holgate, a producer of educational toys headquarted in Chicago, the modern one-story plant was sold for $135,000. The plant will be used by Melville for its screen print dyeing operation. The firm is a processor of all types of fabrics including silks, cottons and synthetics such as nylon, fiber glass, Arnel, Orlon and Dacron, and various fiber blends. Melville will employ approximately 50 persons initially. Ultimate employment will be 150 persons.

NEW YORK, N. Y.—Reeves Bros. Inc. here reports that sales are running 40% ahead of a year ago. The company reports that it has orders for $17 million of profitable sales through the second quarter of 1960, against a $12 million backlog at the same time in 1958. John M. Reeves, board chairman, said the firm had been thinking of a stock dividend but had not yet decided. He said there were no plans to split the stock.

HICKORY, N. C.—Southern Elastic Corp. here is constructing a new plant for its operations. The plant will have 21,000 square feet of floor space, according to Robert Cline, secretary-treasurer and general manager. The company was formed here in 1954 and produces elastic yarn used primarily in the production of hosiery.

OPP, ALA. — Opp Cotton Mills and Micolas Cotton Mills here have modified manufacturing procedures to serve a broader segment of the textile industry. Opp Mills has installed added opening equipment to permit metered feeding and blending of cotton and synthetics. Some 38% of the looms in the Micolas mill have been widened to produce fabrics 45 to 50 inches wide for the apparel trade. An engineering program involving job layout, methods, training for improved methods and quality control is under way at Opp with a similar program planned for Micolas. Plans are also being made for training courses under a full-time training director which will deal with various productive categories as well as human relations. The mills' lab will be relocated and expanded.

MACON, GA.—A two-for-one stock split has been approved by the stockholders of Bibb Mfg. Co. here. A dividend of 25 cents a share has been declared on the stock.

GREENSBORO, N. C.—Formation of Burlington Yarn Co. as a new division of Burlington Industries and appointment of E. A. Hamrick Jr., as president has been announced by Burlington Industries. J. T. McLoud has been named executive vice-president for sales and Arthur Burnet executive vice-president for manufacturing. The new division will include manufacturing and sales operations for Burlington plans which produce man-made, cotton, blended and specialty yarns for the knitting industry. The division will also serve customers formerly handled by Burlington Yarn Sales Co., which is being discontinued.

ROCKINGHAM, N. C.—J. P. Stevens & Co. is renovating its recently acquired property here and equipping it with modern machinery for the manufacture of fine grade worsted fabrics. The new facility will be called the Martha Baum Plant. The Hannah Pickett Plant of Stevens has been in operation here since 1947. George A. Browder has been named manager of the Hannah Pickett and Martha Baum Plants. Jack A. Bradford has been named superintendent of the Pickett plant and Francis D. Everhart will serve as superintendent of the Martha Baum Plant. The machinery installation is expected to be completed by April 1960.

NEW YORK, N. Y.—H. A. Hefner and a group of associates has obtained ownership of LaFrance Industries here. LaFrance is a jobber of upholstery, industrial and automotive fabrics, with plants in the U. S. and Canada. No change has been made in the name of the company. Hefner will act as president of the firm. The new owners include: Harold R. Hefner, vice-president; D. J. R. Suffredini, vice-president and treasurer; John A. Boland Jr., vice-president; Kendall T. Greenwood, vice-president; John M. Jenkins, vice-president; Glen N. W. McNaughton, secretary; and George B. Kimpton, president of the Canadian subsidiary.

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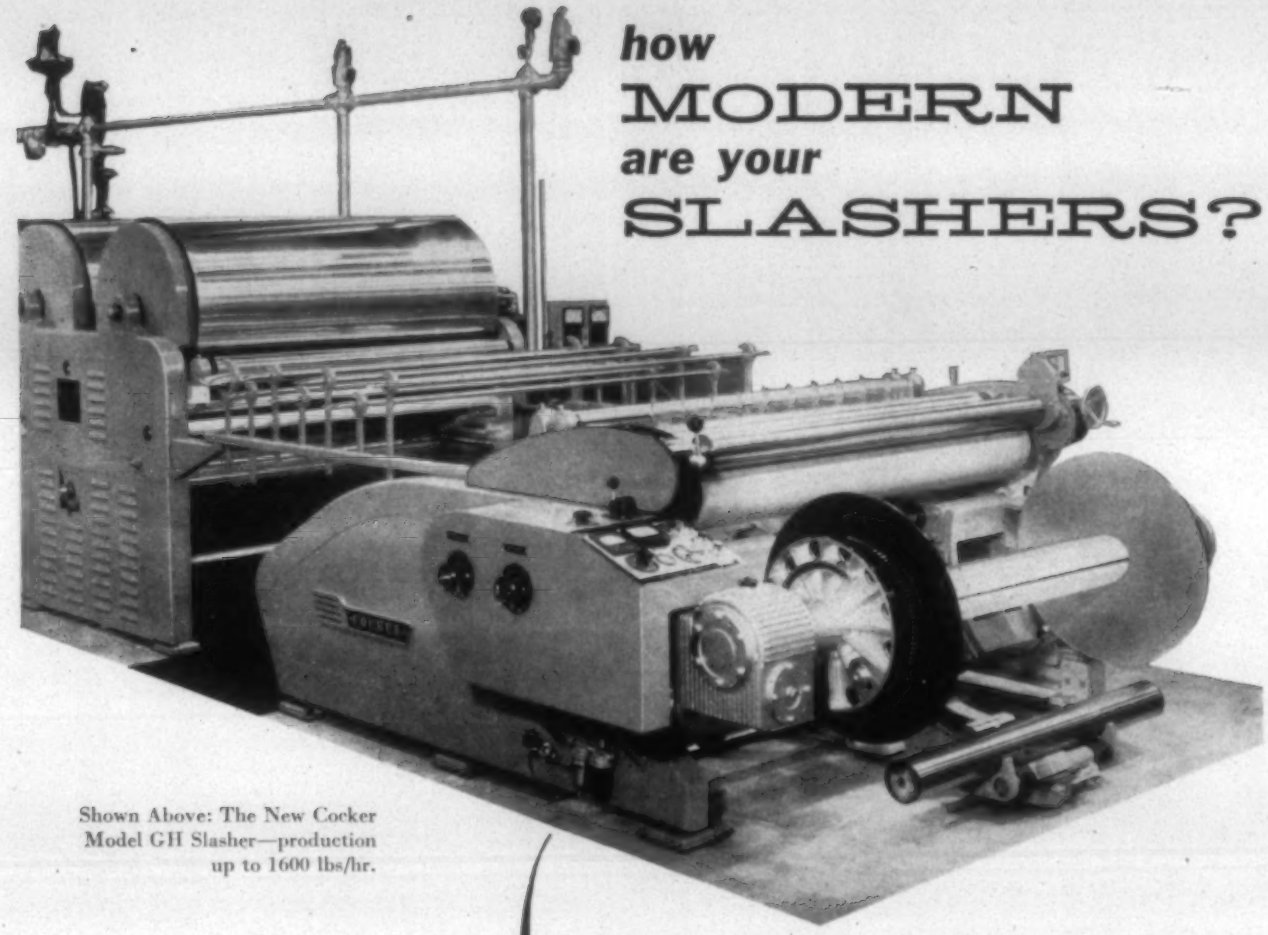

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TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable in advance, $1.50; two years payable in advance, $2.00; one year, Canada, $3.00; one year, other countries in Postal Union, $5.00; single copies, 25 cents. ¶ A companion monthly journal, THE KNITTER, is published by Clark Publishing Co. and devoted to the interests of the knitgoods manufacturing industry.

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The Subsidy Import Fee: A Step In The Right Direction

THE Eisenhower Administration has again made it evident that the textile industry has a long way to go in selling the need for quotas against low wage imports. But progress is being made. The latest encouragement came November 10 in the form of a letter from President Eisenhower to the U. S. Tariff Commission. It reads:

"I have been advised by the Secretary of Agriculture that there is reason to believe that cotton in articles containing cotton is being, or is practically certain to be, imported into the U. S. under such conditions and in such quantities as to render or tend to render ineffective or materially interfere with the Department's export program for cotton and cotton products in that the export payment, equivalent to eight cents per pound on cotton and the cotton content of cotton products, is in effect a loss to the Commodity Credit Corp. to the extent that cotton in articles containing cotton is imported into the U. S.

"The Secretary of Agriculture has reported that the Department of Agriculture is conducting a program, pursuant to Section 203 of the Agricultural Act of 1956, involving subsidy payments of exports of cotton and cotton products to reduce the cotton surplus in the U. S. The present subsidy rate is eight cents per pound on cotton and the cotton content of cotton products. He advises me that there is reason to believe that textiles and other articles made abroad from this and similar cotton are being imported into the U. S., and that to the extent that such articles containing cotton are imported into the U. S., the purpose of the subsidy program is impaired.

"The U. S. Tariff Commission is requested to make an immediate investigation under Section 22 of the Agricultural Adjustment Act, as amended, to determine whether a fee equivalent to the per pound export subsidy rate on the cotton content of imported articles containing cotton is necessary to prevent the imports of such articles from rendering or tending to render ineffective or materially interfering with the Department's export program for cotton and cotton products.

"The Commission's findings should be completed as soon as practicable."

The President's action is the result of a petition filed last June by the National Cotton Council with the Department of Agriculture. The petition asked for increased restrictions on imports of cotton textiles and apparel. The hope had been that the petition would start the ball rolling toward import quotas. But the limited action called for in the President's instructions to the Tariff Commission doesn't hold much hope for import quotas any time in the foreseeable future. On the contrary, the concern expressed in the Eisenhower letter is for the impairment of the subsidy program rather than for the textile industry.

The Tariff Commission won't even estimate how long it might take to get a report of its findings back to the White House. It might be delivered in two months; it might take considerably longer. However long it might take, textile industry observers are confident the Commission will find ample justification to put the fee plan into operation.

Certainly this action is all right as far as it goes. But it just doesn't go far enough. The difference in the cost of raw cotton in this country and overseas is but a part of the advantageous position foreign manufacturers hold over domestic mills. The primary advantage continues to be the difference in wages paid the American worker and the employee in other countries. How can the domestic manufacturer be expected to compete when he has to pay $1.00 more per hour than the average Japanese manufacturer?

Free trade theorists argue that American productive genius more than offsets any of the advantages foreign textile manufacturers might have. They can't be convinced that American money has been pouring into these countries through various forms of foreign aid, and that this money has been used to build modern and efficient textile plants

that can and are competing quality wise with the best managed mills in this country.

Some hopeful observers are predicting that a change is coming up in the U. S. attitude toward both world trade and foreign aid. As more industries feel the squeeze of competition from abroad, more attention is being given to both problems. The steady outflow of American dollars has reached such proportions that the Government is reportedly approaching other countries in the free world asking them to share the burden of supplying capital for the aid of underdeveloped countries. The fact is that currencies of some of the downtrodden European countries have come back strongly during the same time ours has slipped.

Largely as a result of the unsettled steel strike, the U. S. steel industry is beginning to feel the threat of imports. Since 1949, for example, steel imports have increased from 300,000 to 1,700,000 tons. That's an increase of 467%. During the same period, steel exports have decreased 37% for a total of 1,600,000 tons. Last year alone the U. S. imported 83% more steel than it exported. If this trend continues as it is expected to do, the steel industry will find itself shoulder to shoulder with the textile industry in its fight to protect domestic markets.

Be that as it may, the textile industry can say from painful experience that it will be an uphill fight all the way. There aren't any untold facets of the textile industry's plight. The story has been told and retold. Time and again industry spokesmen have urged the federal government to be more realistic in its free trade policies. The Pastore Committee took a long, hard look at the industry and reported fully on what it saw and heard. And yet, ten months after it filed its recommendations, nothing has been done to implement any one of its three most important suggestions, (1) that import quotas be established by specific categories; (2) that the two-price cotton system be abolished; or (3) that depreciation rates on machinery be substantially revised.

In spite of all the evidence laid before it, the Eisenhower Administration still concerns itself more with maintaining relations with potential allies than with protecting essential American industry. Remembering this cold fact, the textile industry finds it hard to rejoice at the action taken November 10. Too much remains to be seen.

September Cotton Consumption Up

Cotton Consumption in the U. S. in September totalled 862,830 running bales as compared with 711,609 running bales in August and 650,019 running bales in September of 1958, according to figures given by the Bureau of Census. Daily average consumption for September was 34,513 bales aginst 35,581 in August and 32,501 bales in September of last year. Stocks in September totalled 10,503,248 bales. August stocks totalled 8,474,537 bales and September 1958 stocks totalled 8,725,847 bales.

Total consumption of foreign cotton in September was 9,400 bales as compared with 8,453 bales in August and 6,120 bales in September 1958. Consumption of man-made fiber staple in September totalled 46,811,000 pounds. This compares with 40,233,000 pounds of man-made fiber staple consumed in August and 37,218,000 pounds consumed in September last year. At the end of September there were in place 19,292,000 active cotton-system spindles. This compares with 19,258,000 spindles in place at the end of August and 19,244,000 spindles in place at the end of September 1958.

September Cotton Cloth Imports Up

Some 20,349,000 yards of cotton cloth were imported into the U. S. in September, according to the Bureau of Census. The cloth was valued at $4.1 million. Imports of cotton cloth in August totalled 17,244,000 yards with a value of $3.4 million, and imports in September of last year totalled 11,406,000 yards valued at $3.1 million.

Imports of other cotton manufactures in September were valued at $13.7 million, compared with $13.5 million in August and $10.8 million in September of 1958.

TEXTILE INDUSTRY SCHEDULE

— 1959 —

Dec. 5 (Sa)—Fall meeting, **PIEDMONT DIVISION, SOUTHERN TEXTILE ASSOCIATION**, Johnston Memorial Y.M.C.A., Charlotte, N. C.

— 1960 —

Jan. 16 (Sa)—Meeting of Board of Governors, **SOUTHERN TEXTILE ASSOCIATION**, The City Club, Charlotte, N. C.

Feb. 4-6 (Th-Sa)—Eighth annual **MATERIALS HANDLING SHORT COURSE**, Georgia Tech Engineering Extension Division, Atlanta.

Feb. 18-19 (Th-F)—Annual conference, **TEXTILE DIVISION, AMERICAN SOCIETY FOR QUALITY CONTROL**, The Clemson House, Clemson, S. C.

Mar. 1-4 (Tu-F)—Spring meeting, **COMMITTEE D-13, A.S.T.M.**, Sheraton-Atlantic Hotel, New York City.

Mar. 10-11 (Th-F)—Spring meeting, **THE FIBER SOCIETY**, Roosevelt Hotel, New Orleans.

Apr. 7-9 (Th-Sa)—Annual meeting, **AMERICAN COTTON MANUFACTURERS INSTITUTE**, Americana Hotel, Bal Harbour, Fla.

Apr. 20-21 (W-Th)—Annual meeting, **ALABAMA TEXTILE MANUFACTURERS ASSOCIATION**, Buena Vista Hotel, Biloxi, Miss.

Apr. 26-27 (Tu-W)—Technical Advisory Committee meeting and Board of Trustees meeting, **INSTITUTE OF TEXTILE TECHNOLOGY**, Charlottesville, Va.

Apr. 28-30 (Th-Sa)—The 59th annual convention, **PHI PSI FRATERNITY**, Hotel Roosevelt, New York City.

May 11-14 (W-Sa)—Annual outing, **CAROLINA YARN ASSOCIATION**, Pinehurst, N. C.

May 19-21 (Th-Sa)—The 60th anniversary meeting, **GEORGIA TEXTILE MANUFACTURERS ASSOCIATION**, Diplomat Hotel and Country Club, Hollywood, Fla.

May 23-27 (M-F)—**AMERICAN TEXTILE MACHINERY EXHIBITION**, Atlantic City, N. J.

May 26-28 (Th-Sa)—Annual meeting, **SOUTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION**, The Cloister, Sea Island, Ga.

May 31-June 2 (Tu-Th)—11th Annual **COTTON RESEARCH CLINIC** (sponsored by The National Cotton Council), Grove Park Inn, Asheville, N. C.

June 23-25 (Th-Sa)—52nd annual convention, **SOUTHERN TEXTILE ASSOCIATION**, The Grove Park Inn, Asheville, N. C.

Sept. 8-9 (Th-F)—Annual meeting, **COMBED YARN SPINNERS ASSOCIATION**, The Cloister, Sea Island, Ga.

Sept. 27-28 (Tu-W)—The ninth annual **CHEMICAL FINISHING CONFERENCE**, sponsored by the National Cotton Council, Statler Hotel, Washington, D. C.

Oct. 3-6 (M-F)—The 21st **SOUTHERN TEXTILE EXPOSITION**, Textile Hall, Greenville, S. C.

Oct. 5-6 (W-Sa)—Annual Meeting, **CARDED YARN ASSOCIATION**, The Grove Park Inn, Asheville, N. C.

Oct. 18-21 (Tu-F)—Fall meeting, **COMMITTEE D-13, A.S.T.M.**, Sheraton-Atlantic Hotel, New York City.

(M) Monday; (Tu) Tuesday; (W) Wednesday; (Th) Thursday; (F) Friday; (Sa) Saturday

CLASSIFIED ADVERTISING

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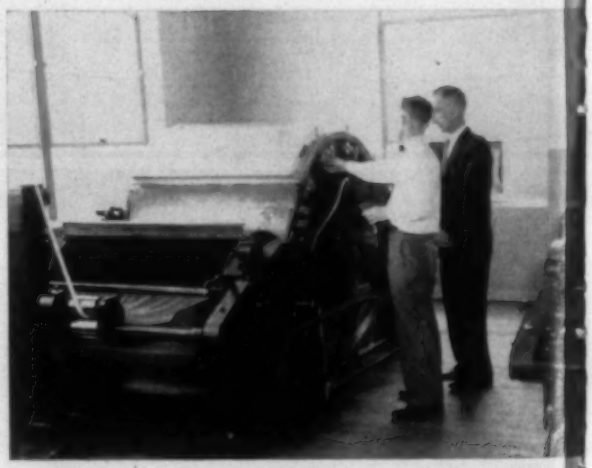
Saco-Lowell Research, Page 46



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. . . and includes

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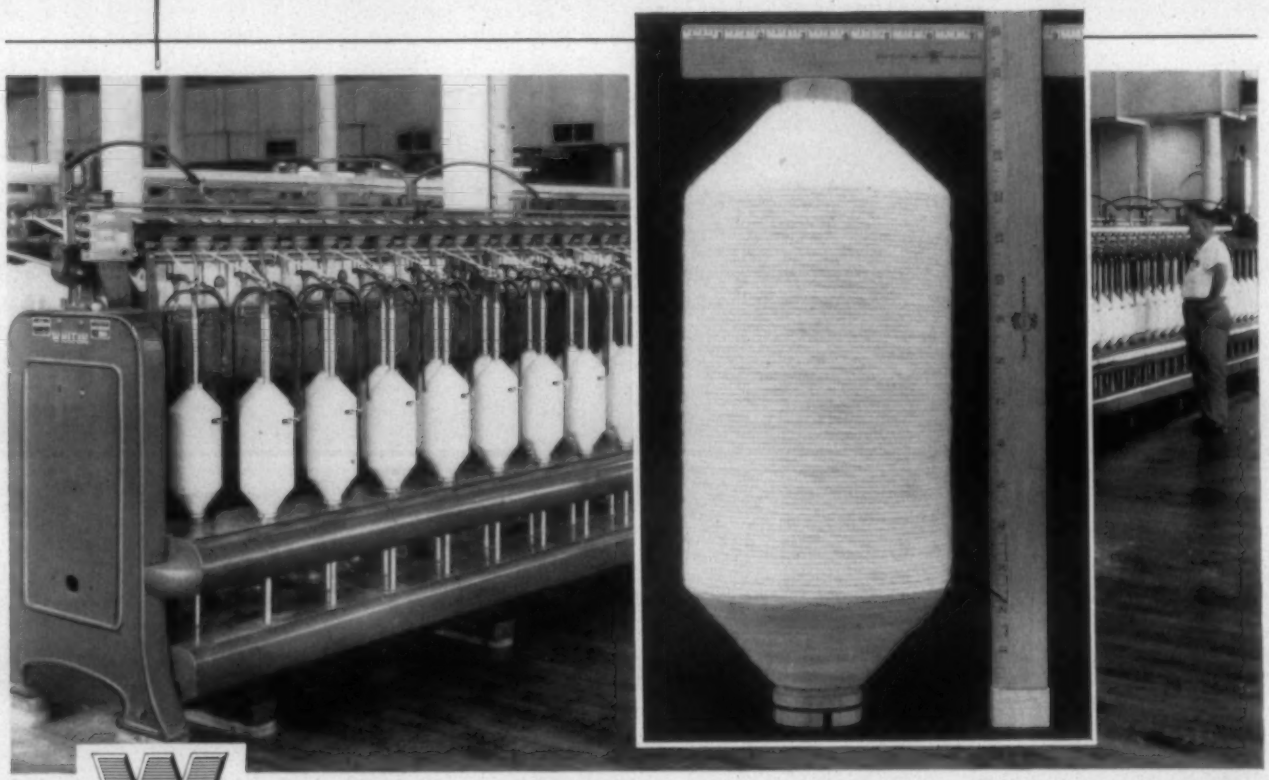
S.T.A. Workshop, Page 61

Now... reduce costs with NEW Whitin ECONOMY-SIZE roving packages



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New frame improvements include:

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- Quick skip gears
- Chain drive to twist gears
- Helical gearing in head end
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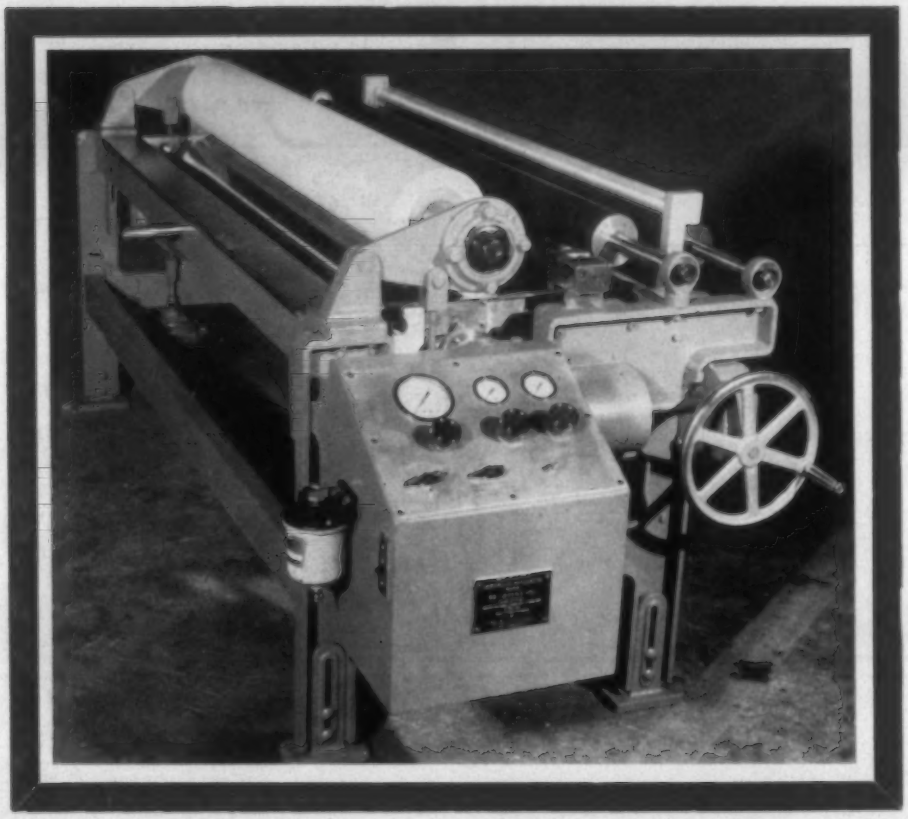

The ECONOMY Model of the GRIFFIN SIZE APPLICATOR is NOW available. It has the same basic design, same dependability, and most of the exclusive features. It does not have the aluminum counter-balanced cover, cover heater and input controller. Also, the exit guide roll has been eliminated. These items have allowed for a substantial reduction in initial cost.

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